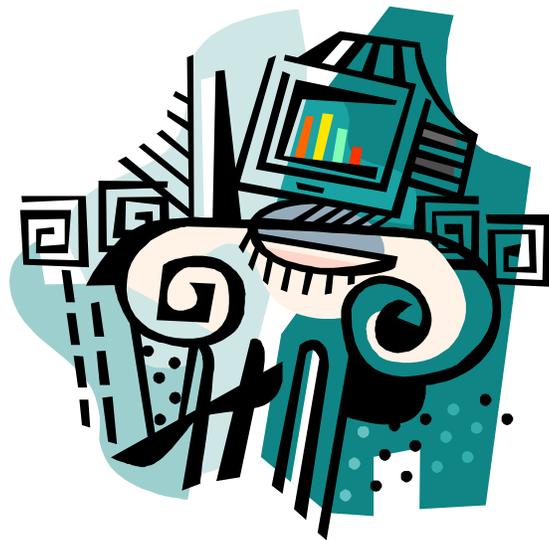


Kentucky and the New Economy
Challenges for the Next Century

THE CONFERENCE PROCEEDINGS



KENTUCKY
LONG-TERM POLICY RESEARCH CENTER

Kentucky and the New Economy
Challenges for the Next Century

THE CONFERENCE PROCEEDINGS



Edited and Compiled by

Suzanne King
Billie M. Sebastian

KENTUCKY
LONG-TERM POLICY RESEARCH CENTER

Published By

KENTUCKY

LONG-TERM POLICY RESEARCH CENTER

111 St. James Court
Frankfort, Kentucky 40601

2001

*Printed with state funds
Available in alternative formats upon request*

KENTUCKY

LONG-TERM POLICY RESEARCH CENTER

BOARD OF DIRECTORS

Rep. Steve Nunn, Chair
Betty Griffin, Vice Chair

EXECUTIVE BRANCH

Diane Hancock
Mary E. Lassiter
Donna B. Moloney
James R. Ramsey

LEGISLATIVE BRANCH

Sen. Tom Buford
Sen. Alice Forgy Kerr
Rep. “Gippy” Graham
Sen. Dale ShROUT

AT-LARGE MEMBERS

Evelyn Boone
Ron Carson
Paul B. Cook
Daniel Hall
Jennifer M. Headdy
Sheila Crist Kruzner
Penny Miller
Robert Sexton
Alayne L. White

EXECUTIVE DIRECTOR

Michael T. Childress

The Kentucky Long-Term Policy Research Center is governed by a 21-member board of directors, including four appointees from the executive branch, six from the legislative branch, and eleven at-large members representing organizations, universities, local governments, and the private sector. From the at-large component of the board, six members are appointed by the Governor and five by the Legislative Research Commission. In accordance with its authorizing legislation, the Center is attached to the legislative branch of Kentucky state government.

Preface

As part of its mission to advise and inform the Governor, the General Assembly, and the public about the implications of trends influencing the state's future, the Kentucky Long-Term Policy Research Center presents the proceedings from its seventh annual conference, which was held in Covington at the Northern Kentucky Convention Center in November 2000. The day and a half conference, which was jointly sponsored by Kentucky Leaders for the New Century, an emerging group of young leaders, and which featured collaborative efforts with Kentucky Educational Television, provided significant food for thought. Lively panel discussions and prominent speakers considered Kentucky's position in the New Economy and trends influencing the future of the Commonwealth. From policymakers at every level to ordinary citizens of the Commonwealth, all who are interested in and concerned about the future of our state will find material of interest in these proceedings.

KENTUCKY LONG-TERM POLICY RESEARCH CENTER

The Kentucky Long-Term Policy Research Center was created by the General Assembly in 1992 to bring a broader context to the decisionmaking process. The Center's mission is to illuminate the long-range implications of current policies, emerging issues, and trends influencing the Commonwealth's future. The Center has a responsibility to identify and study issues of long-term significance to the Commonwealth and to serve as a mechanism for coordinating resources and groups to focus on long-range planning.

Michael T. Childress serves as the executive director of the Kentucky Long-Term Policy Research Center. Those interested in further information about the Center should contact his office directly at:

111 St. James Court
Frankfort, Kentucky 40601-8486
Phone: 502-564-2851 or 800-853-2851
Fax: 502-564-1412 or 800-383-1412
e-mail: info@kltprc.net
www.kltprc.net

Table of Contents

Preface-----	v
Speaker Biographies-----	ix
Acknowledgments-----	xxiii

Kentucky and the New Economy

Welcome-----	3
Keynote Address: The New Economy and Kentucky-----	5
Government’s Role in the New Economy-----	9
Transitioning from “Bricks and Mortar” to “Clicks and Mortar”-----	19
Educating New Economy Citizens-----	31
The Digital Divide-----	43

Challenges for the Next Century

Welcome and the Vic Hellard, Jr. Award-----	53
The Forces of the Future-----	59
KET Panel Presentation: Is Kentucky Making Progress?-----	65
Keynote Address: The Future of Social Security-----	81
What Does the Aging of Kentucky’s Population Portend for the Future?-----	91
What Are the Trends Affecting Postsecondary Education and How Can We Improve?-----	105
How Can Kentucky Create an Entrepreneurial Economy?-----	119

Appendices–Slide Presentations

Appendix A: “The Forces of the Future”-----	135
Appendix B: What Does the Aging of Kentucky’s Population Portend for the Future?-----	153
John Watkins’ Slides-----	155
Michael Childress’ Slides-----	161
Appendix C: What Are the Trends Affecting Postsecondary Education and How Can We Improve?--	175
Michal Smith-Mello’s Slides-----	177
Corrie Orthober’s Slides-----	183
Amy Watts’ Slides-----	189

Speaker Biographies



Walter A. Baker is an attorney in Glasgow, Kentucky. He graduated from Harvard College (A.B. Magna Cum Laude and Phi Beta Kappa) and from Harvard Law School (LL.B.). Baker served as a state representative from Kentucky's 23rd House District from 1968-1971 and as a state senator from the 9th Senatorial District from 1972-1981 and from 1989-1996. He was the Assistant General Counsel for International Affairs, Office of Secretary of Defense in the Department of Defense from 1981-1983 and a Justice in the Kentucky Supreme Court in 1996. Baker served as Judge Advocate with the rank of Lt. Colonel for the USAFR, Kentucky Air National Guard, from 1961-1981. He received the Kentucky Council on Crime and Delinquency Outstanding Service Award (1975), Dept. of Defense Outstanding Public Service Award (1983), the Louisville-Jefferson County Crime Commission Legislator of the Year Award (1990 and 1992), the Barren River ADD William H. Natcher Award for Outstanding Public Service (1995), and the Glasgow-Barren County Chamber of Commerce "Ernie Award" (1996). He is a Life Member of the Sixth Circuit Judicial Conference, serves on the Council for Postsecondary Education, and is First Vice President of the Kentucky Historical Society.



Betty Winston Bayé is an editorial writer and columnist for *The Courier-Journal* in Louisville, Kentucky. The Brooklyn, New York, native earned a bachelor's degree at Hunter College, City University of New York, and earned a master's degree at Columbia University Graduate School of Journalism. In the 1960s, Bayé was a community organizer for the New York Office of the Student Nonviolent Coordinating, and performed with Barbara Ann Teer's National Black Theater in Harlem. For many years, Bayé was a secretary or administrative assistant for The Presbyterian Church U.S.A., the Episcopal Church's General Convention Special Program, Metromedia, The National Committee of Black Churchmen, the Opportunities Industrialization Centers (OIC) of New York, the Interreligious Foundation for Community Organization (IFCO), and the National Council of Churches' Office of Church and Society. Bayé's first job in journalism was as a reporter covering politics, housing and community development for *The Daily Argus* newspaper in Mount Vernon, NY. In 1984, she joined *The Courier-Journal* in Louisville as a general assignment reporter, and has been with *The Courier-Journal* since in various capacities, including assistant city editor and Neighborhoods editor. Bayé spent the academic year 1990-91 at Harvard University as a Nieman Fellow. Upon her return to Louisville, she joined *The Courier-Journal's* editorial board, and soon thereafter launched a weekly op-ed column, which now is syndicated nationally by the Gannett News Service. Betty Bayé's novel, *The Africans*, was published in 1983. In the early 1980s, she was an adjunct lecturer in Hunter College's Communications Department. In recent years, Bayé has been featured in or has contributed to the following books: *Children of the Dream: the Psychology of Black Success*; *The History of the National Association of Black Journalists*; *Work Sister Work*; *Thinking Black: Some of the Nation's Best Black Columnists Speak Their Mind*; and *Kentucky Women: Two Centuries of Indomitable Spirit and Vision*. Her memberships include the Black Alumni Network of Columbia University, Graduate School of Journalism; the National Association of Black Journalists; the Louisville Association of Black Communicators; Delta Sigma Theta Sorority Inc., Louisville Chums Inc. and St. Stephen Baptist Church in Louisville.

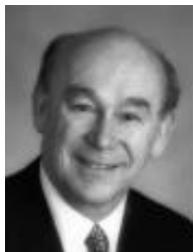


John M. Berry, Jr. is a member of the law firm of Berry & Floyd, P.S.C., in New Castle, Kentucky. He was elected to the Senate from the 26th Senatorial District of Kentucky in 1973 and re-elected in 1977. Berry was selected by the Kentucky Press Association in the 1974, 1976, and 1978 sessions of the Kentucky General Assembly as the Outstanding Legislator in the Public Interest and in 1976 as the Outstanding Legislator and the Outstanding Consumer Legislator. In the 1980 session, Berry was elected Majority Floor Leader of the Senate, once again selected by the Kentucky Press Association as the Outstanding Legislator as well as the Most Effective Legislator for his Party. Berry was formerly Chairman of the Governor's Solid Waste Commission, Chairman of the Governor's Hazardous Waste Commission, and President of the Burley Tobacco Growers Cooperative Association. He serves as General Counsel for the Burley Tobacco

Growers Cooperative Association, Chairman of the Board of United Citizens Bank and Trust Company, and as a member of the Governor's Commission on Family Farms. He accomplished his undergraduate education at the University of Kentucky and Stetson University and received his law degree from the University of Louisville School of Law. Berry and his wife Carol have five children.



John Y. Brown III is presently Secretary of State for the Commonwealth of Kentucky. He is a graduate of the Kentucky public school system; Bellarmine College, B.A. (magna cum laude); and the University of Kentucky College of Law, J.D. (with distinction). Prior to his election, Secretary of State Brown served as the Director of Franchising for Roasters Corporation and worked with entrepreneurs who started franchises in 37 states and several foreign countries. He was responsible for over \$9 million in company profits derived from franchise fees. He had also worked as a Summer Associate at Brown, Todd, and Heyburn and Stoll, Keenon, and Park. Brown won his first election in 1995 in a statewide race for Secretary of State by a 14 percent margin, garnering over 500,000 votes. His father, John Y. Brown Jr., was governor of Kentucky from 1979-83. His grandfather, John Y. Brown Sr., was a member of the U.S. Congress from 1932-34 and was a five-term Kentucky state representative with one term as Speaker of the House. Brown and his wife Rebecca J. Brown have two children, John Y. Brown IV and Margaret Sarah Brown.



Paul W. Chellgren is currently Chairman of the Board and Chief Executive Officer of Ashland Inc. He joined Ashland in 1974 as Executive Assistant to the Chairman of the Board and Chief Executive Officer. In 1977 he was named Administrative Vice President of Ashland Chemical Company in Columbus, Ohio, and became a Group Vice President of that division the following year. He was named Senior Vice President and Group Operating Officer of Ashland Inc. in 1980 with responsibility for Ashland Chemical Company, Ashland Coal, Inc. and Ashland Development. In January 1988 he was elected Senior Vice President and Chief Financial Officer. Four years later in January 1992 he was elected President and Chief Operating Officer and a member of the board of directors of Ashland Inc. He is also a director of Arch Coal, Inc. (NYSE) and former Chairman of the Board. Chellgren is currently a director or trustee of PNC Bank Corp., Medtronic, Inc., the University of Kentucky, Centre College, and the American Petroleum Institute. He is a member of the Business Roundtable (Policy Committee), National Petroleum Refiners Association, and Society of the Chemical Industry. He is also a member of the University of Kentucky Fellows; a director of both the Marshall University Foundation and Foundation for the Tri-State Community; trustee of both the Cincinnati Museum of Art and the Taft Museum in Cincinnati; vice chairman of the National Foundation for Advancement in the Arts; and Director and Secretary/Treasurer of American Friends of University College, Oxford, Inc. Chellgren earned a B.S. from the University of Kentucky, an M.B.A. from Harvard University and a D.D.E. from Oxford University, Oxford, England. Prior to joining Ashland, Chellgren was an associate with McKinsey and Company in London, England, and Washington, D.C.; served as an operations analyst in the Office of Secretary of Defense in Washington, D.C.; was an administrative assistant for Boise Cascade in Boise, Idaho, and division general manager in Los Angeles; and was general manager of Universal Capital Corporation in Kansas City, Missouri. Chellgren was born in Tullahoma, Tennessee. He and his wife, Sheila, currently reside in Villa Hills, Kentucky, and have three children.



Michael T. Childress is the Executive Director of the Kentucky Long-Term Policy Research Center, a post in which he has served since the Center began operations in August 1993. Childress received a Bachelor of Arts degree from the University of Kentucky in 1984 and a Master of Arts degree from the University of California, Los Angeles, in 1986—both in political science. From 1988 to 1993, he was a social scientist at the RAND Corporation in Santa Monica, California. While at RAND, he authored numerous studies on topics ranging from demographic trends in the third world to the implications of declining budgets for the U.S. Army. He and his wife Anne have one daughter and triplet sons.



Dr. Stephen Clements is beginning his third year as an Assistant Professor in the University of Kentucky's Department of Educational Policy Studies and Evaluation. From mid-1999 to late June of 2000, he worked in the Commissioner's Office, Kentucky Department of Education (KDE), as Special Assistant for Teacher Data Issues, and continues to assist KDE in improving its data system. His teaching and research have focused on politics and policymaking in education, especially at the elementary and secondary levels. Prior to his faculty appointment he was on the staff of the Kentucky Long-Term Policy Research Center. Before coming to central Kentucky, Clements studied school reform as a graduate student at the University of

Chicago, where he earned his Ph.D. in political science. He has also served as Associate Director of Vanderbilt University's Washington, DC-based Educational Excellence Network and as research associate with the United States Department of Education's Office of Educational Research and Improvement.



Dr. Gordon K. Davies is the president of the Kentucky Council on Postsecondary Education. The Council on Postsecondary Education was created by the Kentucky General Assembly in 1997 as part of a higher education reform effort initiated by Governor Paul Patton. Davies joined the Council in 1998 as its first president. He came to Kentucky with extensive experience in state higher education system coordination, having served from 1977 until 1997 as director of the State Council of Higher Education for Virginia. Before coming to Kentucky, Davies was a visiting professor in the Department of Organization and Leadership at the Teachers College of Columbia University. Davies' lengthy tenure in Virginia was marked by substantial enrollment growth in the state-supported colleges and universities, and by innovative program and funding initiatives that helped place Virginia in the forefront of American higher education. He was principal author of "The Case for Change," the report issued by Virginia's Commission on the University of the 21st Century (1989). The report drew national and international attention, with presentations to representatives of about one dozen foreign countries and more than half the American states and territories. Davies also has served as an officer in the U.S. Navy, has held marketing positions in the computing industry, was a founding dean of a new public college, and taught Religious Studies at Yale University. He has been a strong advocate for equal educational opportunity for 30 years, having directed the Harvard-Yale-Columbia Intensive Summer Studies Program from 1968 to 1971. The program offered educational enrichment to students from the nation's historically black colleges and universities, helping them prepare for graduate and professional study. His degrees are from Yale University in English (B.A.) and Philosophy of Religion (M.A. and Ph.D.). He has been awarded six honorary degrees. He has competed in more than two dozen marathons, including five at Boston, and has done rock climbing and mountaineering on four continents.



Representative Jon E. Draud is a member of the Kentucky General Assembly, representing the 63rd House Legislative District. Draud is an educator and obtained his Ed.D. from the University of Cincinnati, and M.A. degrees from both Xavier University and Eastern Kentucky University. He has held positions on the Crestview Hills City Council and the Kenton County School Board, and was Superintendent of Ludlow Public Schools from 1978-1997. Draud has been honored as the A.D. Albright Outstanding Administrator of the year (1993) and the Kenton County Educator of the Year (1992). He has been inducted into the Ludlow High School Athletic Hall of Fame (1993) and the Northern Kentucky Athletic Directors Hall of Fame (1998). Draud is the founder of Northern Kentucky Business Educator Alliance (1991-1997). He served on the Kentucky Association of School Superintendents Board of Directors (1992-1997), was the baseball coach for the 1963 Holmes High School State Champions, and served as the Northern Kentucky School Boards Association Secretary (1992-1994) and Northern Kentucky Superintendents Association President (1994). The Ludlow Public Schools Administration Building was named the "Dr. Jon E. Draud Administrative Center" in his honor. Draud and his wife Beverly have two sons, Dr. Jon W. Draud and Scott M. Draud, and one daughter, Dr. Kimberly Draud Rohmiller.



Dr. Melissa Evans-Andris received her Ph.D. in 1991 from Indiana University where she specialized in sociology of work and education. She joined the faculty of the University of Louisville in 1989. Evans-Andris teaches Occupations/Organizations, Sociology of Education, and Social Theory and Statistics. Her research interests are innovation in organizations and implementation of computer technology in schools.



Kevin Fields is a native of Louisville. He graduated from Western Kentucky University earning a B.S. in Civil Engineering Technology. He received his Master's Degree in Urban Planning from the University of Louisville in 1993. In 2000, Fields launched the operations of Urban Technologies, Inc. (UTI), an independent consulting firm servicing community planning and development needs for government agencies and community-based, nonprofit organizations. UTI provides "*Community Solutions Facilitation*"TM services to guide and support special strategic management initiatives in the areas of housing, workforce development, education, transportation, and technology. He began his career in heavy municipal engineering and

construction as a materials technician, then moved on to work in the engineering division of Louisville's Regional Airport Authority, supporting the development of various airport expansion projects. Fields worked for 14 years as a senior-management-level administrator at the Housing Authority of Louisville. He spearheaded the development of five (5) on-site computer labs within public housing, enabling resident access to technology and helping to bridge the "digital divide."



Vicki Fields is the Kenton County Schools District Technology Coordinator. As the coordinator, Fields is responsible for maintaining a network of 3,000 workstations, 38 file servers and a 20-building WAN. She is also charged with the districts' vision of integrating technology into the curriculum. She was previously employed by the A.C. Nielsen Company where she performed statistical analysis of data gathered for major corporations and assisted in automating the analyst department. Fields was appointed by the Governor to the Kentucky Information Technology Advisory Council, and served on the Kentucky Architectural Standards Committee and the Governor's Task Force for Educational Technology. She is also a member of the Kenton County Facilities Committee, the Community Education Advisory, the Northern Kentucky University Technology Task Force, the Forward Quest Technology Committee, the Kentucky Association of Technology Coordinators' ISTE-International Society of Technology Educators, the Northern Kentucky Association of Instruction Supervisors, and the Association of Supervisors in Curriculum and Development.



Kristy J. Folkwein is the Director of Information Technology Solutions for Ashland Distribution Company. In this position, Folkwein is responsible for developing and maintaining Ashland Distribution's information technology strategy, with particular focus on its enterprise resource planning and electronic commerce initiatives. She is based in Dublin, Ohio, and reports to Howard E. Camper, vice president of IT Solutions for Ashland Distribution and Ashland Specialty Chemical companies. Folkwein previously served as the manager of IT Solutions for Ashland Distribution Company. She joined Ashland in 1992 as a senior systems engineer with the Information Technology Department. She also has served as a project manager for this group. Folkwein earned a bachelor's degree in management information systems from Bowling Green State University and a master's degree in business administration from the University of Toledo. Ashland Distribution Company, a division of Ashland Inc., is the largest distributor of chemicals, plastics, and fiber reinforcements in North America, a leading distributor of fine ingredients in North America, and a leading Pan-European distributor of plastics. Ashland Distribution has 100 distribution centers serving North America and Europe.



Dr. Thomas R. Ford is a retired University of Kentucky professor of sociology. Prior to his retirement in 1990, Ford served on the faculty of the University of Kentucky for 34 years, including five years as Chairman of the Departments of Sociology and Rural Sociology. During the latter part of this period, Ford was director of the University's Center for Developmental Change. A specialist in rural sociology and social demography, Ford conducted research in those fields not only in the United States but also in Peru, Colombia, Costa Rica, and Spain. While on leave from the University of Kentucky, he spent two years in Colombia as Resident Representative of The Population Council, a not-for-profit foundation devoted to population and family planning programs in developing countries. During the mid-1960s Ford served as a member of the President's National Advisory Commission on Rural Poverty, chaired by Governor Edward T. Breathitt. A recipient of the University of Kentucky Alumni Award for Excellence in Research and the Sturgill Award for Outstanding Contributions to Graduate Study at the University of Kentucky, Ford was elected by his colleagues on the faculty as Distinguished Professor in the University of Kentucky College of Arts and Sciences in 1980. He holds baccalaureate and masters degrees from Louisiana State University and a doctorate from Vanderbilt University. He is a member of a number of professional organizations and is past president of the Rural Sociological Society and the Southern Sociological Society. His publications include several books as well as numerous journal articles and technical reports. Included among the books he has authored or edited are *Health and Demography in Kentucky*, *The Southern Appalachians: A Survey*, *Rural USA*, and *Social Demography*.



Senator Wendell H. Ford, retired United States Senator, served in the U.S. Senate from December 28th, 1974 to January 3rd, 1999. Ford held the position of Assistant Democratic Leader. First elected to the post in 1990, he was reelected, without opposition, to serve in that capacity until his retirement. Ford's career spans over a quarter of a century in elective office. He began as a Kentucky State Senator in 1965 and was elected Lt. Governor in 1967. Four years later, he became the Commonwealth's 49th Governor. He was first elected to the United States Senate in 1974. He was reelected by overwhelming margins in 1980 and 1986. In 1992, he

made Kentucky history when he received the largest number of votes ever recorded by a candidate for elected office in the Commonwealth. On March 14th, 1998, Ford became Kentucky's longest serving United States Senator breaking the mark held by Alben Barkley. Ford rose to 11th in overall seniority and ranked 6th among Democrats in the 105th Congress. Over the years, Ford became known as a staunch supporter of the economic interest of Kentucky farmers and a national leader on energy, aviation, federal election reform and other issues. He shaped major legislation in these areas, including the National Voter Registration Act, The Family and Medical Leave Act and a number of national energy and aviation bills. After retiring from the U.S. Senate, Ford joined the firm of Dickstein, Shapiro, Morin & Oshinsky as a Senior Legislative Advisor. He is teaching three days a month at the University of Kentucky's Martin School of Public Policy and Administration. He has been actively involved in the development of the Wendell H. Ford Government Education Center at the Owensboro Area Museum. The mission of the new center is to encourage students to take an interest in government at all levels and to study and develop issues important to their futures. Born on September 8th, 1924, Ford is a native of Owensboro and a graduate of Daviess County High School. He attended the University of Kentucky and served in the U.S. Army during WWII. After WWII he joined the Kentucky Army National Guard and served 13 years. He is married to the former Jean Neel of Owensboro. They have two children and five grandchildren.



Myk Garn is the Chief Academic Officer of the Kentucky Virtual University. He is responsible for establishing strategic and operational curriculum priorities and plans and managing courseware vendors. He also creates and maintains liaisons with provider institutions and faculty; works with chief academic officers of provider institutions to establish curricula, policies, and procedures; and maintains communications with institutional coordinators to address and manage day-to-day academic operations.



Bill Goodman began hosting *Kentucky Tonight* on the Kentucky Education Network (KET) in September of 1996. Prior to joining KET, Mr. Goodman ran a business in Glasgow, Kentucky. Before that he was news director at KPRC-TV in Houston and worked in various capacities at WTVF-TV in Nashville. Goodman is a graduate of Western Kentucky University.



James P. Gray II currently serves in his family's business enterprise as Managing Director of Gray Capital, an investment vehicle affiliated with the James N. Gray Company. That role includes making investments in early to late-stage private companies, companies involved principally in emerging technologies such as internet infrastructure, business-to-business e-commerce, broadband and wireless. Gray isn't new to the entrepreneurial world, having been responsible for leading the family's construction company for more than 20 years in a day-to-day strategic and operating role. Starting early in 1972, following his father's untimely death, Gray worked in an unusual team with his mother and brothers to grow the fledgling small-town based company into one of the nation's largest and most respected design/build firms. The James N. Gray Company itself experienced many of the ups and downs we see today among start-ups, giving Jim an unusual perspective on today's events and the challenges start-up companies encounter. It was just eight years after their father's death, in 1980, that the family and Gray Construction faced insolvency. By changing their focus from low-margin institutional accounts to private industry, the company recovered and grew significantly. One of Jim Gray's particular roles in the Gray Company was to build the firm's national reputation for marketing to international clients, especially to Japanese transplants in the United States. Over time, the Gray Company became recognized for building more Japanese plants in the United States than any other domestic construction firm. Jim Gray is a graduate of Vanderbilt University and was a Loeb Fellow at Harvard University in 1996-97. He is a trustee of Berea College and Kentucky Education Television. He is also an advisory board member to iVisionary, a late-stage venture fund focused on the build-out of today's knowledge-driven, Internet-based economy.



Craig Greenberg is the Chief Operating Officer and General Counsel of iVisionary Ventures, a business dedicated to the development of privately held technology companies. The iVisionary team is managed by successful entrepreneurs with recent experience building and operating public and private technology companies. They currently operate two businesses: iVisionary Services and iVisionary Fund Management. iVisionary Services is a strategic services firm that helps technology company executives plan and execute their business development and financial strategies to grow rapidly and increase the value of their companies. iVisionary Fund Management manages a venture

capital fund that primarily invests in revenue-generating technology companies. Prior to joining iVisionary, Greenberg was an attorney at Brown, Todd & Heyburn PLLC, one of the largest law firms in the Midwest. At Brown, Todd, & Heyburn, Greenberg was a founder and co-chair of the firm's eLaw Group. Greenberg's practice focused on advising companies on the legal and business issues which affect their e-commerce strategies, particularly with respect to venture capital financing, corporate structures, securities, and intellectual property. Greenberg graduated cum laude from Harvard Law School, where he was an editor of the Journal of Law and Technology, and he is a graduate of the University of Michigan, where he was a member of Phi Beta Kappa. While at the University of Michigan, Greenberg was President of the Student Government. Greenberg is currently a Director of the Kentucky eLearning Foundation.



Michael B. Gritton has served as the Director of the City of Louisville's Office of Strategic Planning for Mayor Dave Armstrong since January 2000. Prior to that, he served for five years as the co-founder and Policy Director of MassINC, a nonpartisan, nonprofit state-level think tank in Massachusetts focused on expanding the size and growth of the middle class in that state (www.massinc.org). He served as the Communications Director for Mark Roosevelt's Democratic campaign for governor of Massachusetts in 1993-94 and as a press secretary for the Clinton/Gore campaign's victorious effort in Delaware in 1992. His legal experience includes stints as a law clerk on the Sixth Circuit Court of Appeals, a litigation associate at Rogers & Wells in New York City, and an associate counsel to the President's Commission on Aviation Security and Terrorism in Washington, D.C. He has a B.A. from Duke University and a J.D. from Columbia University School of Law. He's also a proud graduate of Pleasure Ridge Park High School in Louisville.



Daniel Hall is the Vice President of University Relations, University of Louisville. In that capacity he oversees governmental and public relations for the University of Louisville. Hall is an attorney with experience in private practice specializing in corporate law and has seven years of legislative and political experience working in Washington as the top assistant to former Congressman Ron Mazzoli. He currently serves on the Boards of Directors of the Kentucky Center for Public Issues and the Public Radio Partnership, as well as his position as current Chair of the Kentucky Long-Term Policy Research Center. Hall has a keen interest in the areas of education, law and civil rights. He is an alumnus of Dartmouth College and Harvard Law School.



Johnathan M. Holifield currently serves as Vice President, New Economy Enterprise, for the Greater Cincinnati Chamber of Commerce. Formerly, Mr. Holifield was an attorney with the Hamilton County Prosecutor's Office and Manley, Burke & Lipton, and a member of the Cincinnati Bengals. He received his B.A. in Political Science from West Virginia University, where he was elected to the Board of Governors, won three letters for football and was elected Captain of the team. Johnathan holds both a J.D. and M.Ed. from the University of Cincinnati. Currently, he is Vice President of the NAACP and a board member of American Dream Accounts Program; ArtWorks, Inc.; Downtown Cincinnati Inc.; and YMCA of Greater Cincinnati.

Additionally, Johnathan is also a member of Omega Psi Phi Fraternity, Inc. and a founder of Build Cincinnati. He was named one of 21 to Watch in the 21st Century by *The Cincinnati Enquirer* and received *The Cincinnati Business Courier* Forty Under 40 award for business and civic leadership. Johnathan and his wife Toni live in Cincinnati.



Dr. Larry Jones is an Extension Professor at the University of Kentucky with expertise in macroeconomics, leadership development, and the economic impact of agriculture. His extension/research projects include the Philip Morris Agricultural Leadership Development Program, Distance Learning of Economic Principles, and Impact (I/O) Analyses. Dr. Jones received his B.S. degree from Ohio State University and his M.S. and Ph.D. degrees from Purdue University. He has been published extensively. His articles include "Overview of the Kentucky Agricultural Economy," *The Kentucky Agricultural Outlook for 1998*, Department of Agricultural Economics, February 1998; "Contribution of Agricultural Production and Processing to the Kentucky Economy," *Economic Issues Facing Kentucky Agriculture—Fall 1997*, Department of

Agricultural Economics, October 1997; and "Application of Computer Graphics to Undergraduate Instruction in Agricultural Economics," *American Journal of Agricultural Economics*.



Reverend Nancy Jo Kemper became the Executive Director of the Kentucky Council of Churches in June 1991. Since coming to the Kentucky Council of Churches, Kemper has brought the KCC's public policy to the forefront of media attention. She is frequently cited for work on such issues as gun control, church-state separation, the role and place of religion in public education, death penalty abolition, justice for the poor and gambling expansion. She currently serves as moderator of CAGE, Citizens Against Gambling Expansion, a broad-based coalition of individuals, organizations, and church groups. Kemper has appeared on "CBS This Morning," "The Today Show," and is a regular panelist on "Kentucky Tonight" (KET). A native of Lexington, Kentucky, she was educated at Transylvania University (B.A., in 1964, with

distinction), and Yale Divinity School (Master of Divinity, 1967). The author of numerous articles, she participated in the Marshall Lectures on Social Change at Transylvania in 1978, and presented the Halford Luccock Lectures (on the work of parish ministry) at the Yale Divinity School in that same year. Ordained by the Christian Church (Disciples of Christ), she has served congregations of the United Church of Christ denomination during her 30+-year ministry. Her first churches were in New Haven, Connecticut, and Richmond, Virginia. Her pastorates include: Pilgrim Congregational Church, Oak Park, Illinois; Senior Minister of Calvary United Church of Christ in St. Louis, Missouri; and Senior Minister of Park Congregational Church in Toledo, Ohio. Kemper became the Executive Director of the Kentucky Council of Churches in 1991. Since 1996 she has also served as pastor of New Union Christian Church in Woodford County, Kentucky. Kemper is the mother of two daughters. The Kentucky Council of Churches represents eleven member communions, with nearly 2,800 churches and 800,000 members. Its purposes include work on the visible unity of the church and serving as the churches' advocate on public policy.



Dr. Edward "Skip" Kifer joined the faculty in 1972, coming to Lexington from the University of Chicago and the Measurement, Evaluation, and Statistical Analysis (MESA) specialization. At Chicago he was a Resource Colleague with a Ford Foundation Teacher Training Program, a member of the College Administration staff, and a statistical consultant to the Department of Education. While associated with the University of Kentucky, he has been a Spencer Foundation Fellow at the University of Stockholm and a visiting professor at both SUNY Buffalo and UCLA. Last year he was the AERA Senior Research Fellow at the National Center for Education Statistics. Kifer teaches courses in the quantitative sequence and an introductory evaluation course. His research interests are testing and evaluation broadly

construed. He has written test reviews for the Bureau of Mental Measurement Yearbook, chapters on attitude measurement and construction of attitude measures, and played a major role in designing, implementing, and reporting the results of the Second International Mathematics Study. He was also one of five persons who planned the Commonwealth's assessment system and serves both on its national technical committee and a technical committee that oversees international evaluation studies.



Kris W. Kimel is a founder and President of the Kentucky Science and Technology Corporation (KSTC). During this time, KSTC has been responsible for the development and implementation of a variety of innovative projects in entrepreneurship, manufacturing modernization, R&D and education. KSTC also has two subsidiary companies: Intelligent Change Initiatives, Inc., a nonprofit enterprise, and E¹⁰, Inc., a for-profit firm focusing on helping entrepreneurs start and grow innovative companies. Prior to coming to KSTC, Kimel spent time as a private consultant, serving both public and private sector clients. He also spent twelve years in government, eight as Executive Assistant to Kentucky's Attorney General and four as the Chief Administrative Assistant to the Lieutenant Governor, where he concentrated on

science/technology policy and economic development. Kimel holds bachelor's and master's degrees from the University of Kentucky and is the 1974 male recipient of the school's Sullivan Medallion.



Dr. James C. Klotter received his Ph.D. in history from the University of Kentucky, and has honorary degrees from Eastern Kentucky University and Union College. A native Kentuckian, Klotter is the author, co-author, or editor of a dozen books including *A New History of Kentucky*; *Kentucky: Decades of Discord, 1865-1900*; *Kentucky: Portrait in Paradox, 1900-1950*; *William Goebel: The Politics of Wrath*; *The Breckinridges of Kentucky*; *Our Kentucky: A Study of the Bluegrass State*; and *History Mysteries*. Klotter was also an associate editor of the *Kentucky Encyclopedia* and was Executive Director of the Kentucky Historical Society for many years, until his retirement. He is the State Historian and Professor of History at Georgetown College, and he and his wife Freda live in Lexington.



Joanne Lang has been vice president at the Kentucky Science and Technology Corporation (KSTC) since 1996. She directs several initiatives under KSTC's mission to enhance the capacity of people, firms and organizations to use science and technology to compete successfully in the world marketplace. Currently, she is involved in several key initiatives such as *entreSchools*[™], *ideaFestival*[™], *Kentucky's Science and Technology Strategy*, Gorilla Group for Student Entrepreneurs, and the Partnership for Initiatives in Science and Mathematics (PRISM). Prior to joining the KSTC team, Lang spent over 17 years at the Kentucky Council on Higher Education (now known as the Council on Postsecondary Education). Most of that time she served as Deputy Executive Director for Planning. Lang developed three different five-year, statewide strategic plans for higher education, implemented the first-ever system of annual higher education accountability reports, and oversaw Kentucky's only competition for centers of excellence. Lang established the initial federal Eisenhower higher education math/science program and the on-going network of school-college partnerships throughout eastern Kentucky originally known as Destination Graduation. She also led the creation of the Kentucky Community Service Commission in order for Kentucky to qualify for funding under the national AmeriCorps program. Lang has participated in Leadership Kentucky and the Kentucky Women's Leadership Network. She also was selected from among national applicants for the Top State Managers Program at Duke University and the Toll Fellowship Program sponsored by the Council of State Governments. She earned a Bachelor of Science degree from Buffalo State College and a Master of Science degree from the State University of New York at Buffalo.



Sylvia L. Lovely has served as the Kentucky League of Cities (KLC) Executive Director/CEO since 1990. Prior to that, Lovely served as Director of Intergovernmental Services, staff attorney, and lobbyist for the KLC for two years. With 353 member cities, Lovely advocates on behalf of local leaders, both elected and nonelected. She oversees the activities of 50 staff members who perform a variety of services designed to improve the quality of life and governance in Kentucky's growing communities. Among the services offered are insurance for cities in liability, property, unemployment, workers' compensation and health; bond and investment pools; information services; legal assistance; training and education and many other services. In her capacity as KLC Executive Director/CEO, Lovely serves on a variety of boards and commissions in an effort to enhance and maintain the leadership role of Kentucky cities. She also makes numerous appearances throughout the state on behalf of cities speaking on a variety of topics including civic involvement and entrepreneurship in cities. Lovely was recently appointed by Governor Paul Patton to the Morehead State University Board of Regents. She is a member and past chair of the Kentucky Center for Public Issues, a nonprofit group established to foster public discussion on a variety of vital topics; and served on the Kentucky Tax Policy Commission formed by former Governor Brereton Jones, established to review and recommend change to Kentucky tax policy. She is excited about a new program to revitalize Kentucky downtowns called Renaissance Kentucky, that Governor Paul Patton established as a joint venture with Kentucky League of Cities, Kentucky Housing Corporation, and the Kentucky Heritage Council. She also serves as a member of the Board of the Greater Lexington Chamber of Commerce, Southern Municipal Conference, National League of Cities Advisory Board, Bluegrass Area Development District, and the Downtown Lexington Corporation. Lovely also serves on the Executive Committee of Partners for Family Farms, as well as Treasurer of Kentuckians for Better Transportation. On June 24, 1999, Lovely was honored as the Appalachian Woman of the Year by Morehead State University. Lovely is a graduate of the University of Kentucky College of Law and is licensed to practice in Florida and Kentucky. She resides in Lexington with her husband Bernie and two sons, Ross and David.



Chuck Martin, a highly regarded online publisher, lecturer, marketer and author, is chairman and CEO of Net Future Institute, a U.S.-based think tank focusing on the future of the Internet and e-commerce. His latest book is titled *Net Future: The 7 Cyber Trends That Will Drive Your Business, Create New Wealth and Define Your Future*. A pioneering leader in the interactive marketplace, Martin has the far-reaching vision that is essential for success in the new networked economy. In his *New York Times* bestseller, *The Digital Estate*, Martin provided a leading strategic guide to operating a business on the Internet. In the book, Martin explains that the Net is a totally new environment, not simply a place to extend your existing business. He outlines 20 key concepts and business themes.



Dr. Sue Hodges Moore has been employed by the Kentucky Council on Postsecondary Education since 1994 and currently serves as its Executive Vice President. Prior to that she served as Vice President for Academic Affairs from 1996 to 2000 and as Director of Finance from 1994 to 1996. Moore is the principal author of the Council's "2020 Vision: A Strategic Agenda for Kentucky Postsecondary Education." This report communicates the postsecondary education system's commitment to making Kentucky a better place to live and work. In addition to her role at the Council, Moore served from February through June of 1998 as Acting Vice President for Academic Affairs at the Kentucky Community and Technical College System. She was instrumental in leading the Council's Commonwealth Virtual University until its Chief Executive Officer was hired in 1999. Beyond her coordinating board work, she has extensive administrative experience in a university setting. In the early 1990s, Moore served as Director of Planning and Institutional Research at East Carolina University in Greenville, North Carolina. From 1983-88, she was employed at the University of Louisville as Assistant Director of Planning and Budget. She began her career in the finance and budget area at Northern Kentucky University in 1977. Moore completed her baccalaureate work at Northern Kentucky University and has an MBA from Xavier University in Cincinnati, Ohio. In 1994, she received her Doctorate in Education Administration from the University of Louisville. A native of Northern Kentucky, Moore now lives in Louisville with her husband Ron Moore, who is the University of Louisville's Vice President for Information Technology, and their 6 year-old daughter, Aubrey.



Jim Nelson has served as State Librarian and Commissioner of the Kentucky Department for Libraries and Archives since 1980. He is a graduate of the University of Colorado and the University of Kentucky's College of Library Science, where he was named Outstanding Alumnus in 1985. He has held positions in the library schools at the Universities of Wisconsin and Kentucky; was a Speechwriter for Governor Wendell Ford; served as the Director of the Hardin County Public Library; and was a volunteer in the U.S. Peace Corps. Nelson has served in advisory roles with the Gates Library Foundation; the W.K. Kellogg Foundation; the U.S. Congress, Office for Technology Assessment; and the U.S. Department of Education. He has held national offices in the American Library Association and the Chief Officers of State Library Agencies as well as writing for and editing various national publications in library science and information policy. Nelson also served as Chair of the Kentucky Information Resources Management Commission. In that capacity, he served on the CIO Governance Team established under the new Chief Information Officer Management System and was involved in the major IT transition plan for state government. He also chairs the Steering Committee which is developing a Kentucky Commonwealth Virtual Library as part of the Council on Postsecondary Education. Nelson chairs the Kentucky Archives and Records Commission and is a permanent member of the Kentucky Library Association Board of Directors.

Corrie Orthober is a graduate student in Educational Policy Studies and Evaluation at the University of Kentucky. She also teaches a course in the department. She is a former Louisville high school teacher and a former intern with the Kentucky Long-Term Policy Research Center. She and her husband John reside in Lexington with their newborn son, Benjamin August "Gus" Orthober.



Douglas Robinson is the Executive Director of the Governor's Office for Technology's Office of Policy and Customer Relations for the Commonwealth of Kentucky. In that position he is the senior executive responsible for state government information technology (IT) strategic planning, information policy, enterprise architecture and customer relationship management. His responsibilities include advancing the IT architecture of the state, promoting opportunities for electronic government services, emerging technology research and promoting best practices in IT management. As an IT process owner, Robinson has been actively involved in Governor Patton's EMPOWER Kentucky initiative for reengineering state government. He has 22 years experience in the information technology arena including IT consulting, researching emerging technologies, public policy issues, electronic access and dissemination strategies and technology transfer. He is a member of several national groups and many commissions, boards and committees related to information technology and information resources management. Robinson has also served as Executive Director of the Kentucky Information Resources Management (KIRM) Commission in the Office of the Chief Information Officer for the Commonwealth, Executive Director of the Kentucky Office of Geographic Information Systems, Information Resources Consultant in the Commissioner's Office of the Department of Information Systems, and as Interim Director and Technology Transfer Coordinator for the NASA Technology Applications Center at the University of Kentucky. Robinson earned a B.A. from Maryville College (TN) and an M.P.A. with a concentration in science, technology, and public policy from the University of Tennessee.



Dr. Graham Rowles is a social geographer with an interest in the humanistic tradition who, for the past 20 years, has focused his research on the geography of aging and the aged. A primary emphasis of this work has been exploration of the changing relationship between elderly people and their environment. Rowles has studied elderly people in an urban, inner city environment, in rural Appalachia, and in a variety of residential and institutional settings. He is a fellow of the Gerontological Society of America, serves on the editorial board of *The Journal of Gerontology*, and is editor of the *Journal of Applied Gerontology*. Recent research has included investigation of the impact of elderly migration in Appalachia, a major project investigating family involvement in nursing home decisionmaking (funded by the National Institute on Aging), and research on long-term care of the rural elderly. Reflecting a strong multidisciplinary orientation, he publishes not only in geography and gerontology, but also in fields ranging from environmental and community psychology to occupational therapy. Since 1985 he has served as Associate Director for Social and Behavioral Sciences of the Sanders-Brown Center on Aging.



James C. Seiffert is a member in the Louisville, Kentucky, law office of Stites & Harbison where he concentrates his practice on entrepreneurial and venture capital transactions with an emphasis in the tax, partnership and general business areas. Seiffert is a graduate of the University of Iowa, and was awarded his J.D. degree from the University of Louisville School of Law (with high distinctions), and his LL.M. in taxation from the University of Miami, Coral Gables, Florida. He served as co-chair of the Kentucky Bar Association committee which drafted the Limited Liability Company Act and registered limited liability partnership legislation as well as amendments thereto. Seiffert is the author of Kentucky Corporation Law, Harrison Company (1993), and is a contributing author for the University of Kentucky Continuing Legal Education's (CLE) first and second edition monographs, Limited Liability Companies in Kentucky (1994, 1998). He has also served as an author for the 1997 University of Kentucky CLE practice handbook, Kentucky Corporation Law (S Corporations) and as a planning committee member, co-chair and speaker for the University of Kentucky CLE's Biennial Business Associations Institute (1996 and 1998). An active member of the Louisville, Kentucky, Iowa State, and American Bar Associations, Seiffert is widely published and is a frequent lecturer at continuing legal education programs. He has also served as an adjunct Professor of Law (Business Planning) at the University of Louisville Brandeis School of Law.



Dr. Gerald L. Smith is an Associate Professor at the University of Kentucky Department of History. He is the Director of African-American Studies and teaches classes in American Urban and African-American history. Smith received his Ph.D. from the University of Kentucky in 1988. He is the author of *Black Educator in the Segregated South: The Life and Times of Rufus B. Atwood, 1897-1983* (1993) and several articles and essays in journals including the *Journal of Urban History*. His current research includes: "Black Protest in the Bluegrass State: Kentucky and the Civil Rights Movement, 1954-1968" and a booklength study of blacks in Memphis from 1860 to 1954 (with Professor Kenneth Goings).



Michal Smith-Mello is a Senior Policy Analyst with the Kentucky Long-Term Policy Research Center, a post she has held since November 1993. In that capacity, she served as the principal author of the Center's 1994 inaugural biennial trends report, *The Context of Change*. Additionally, she has served as a co-author/editor of all subsequent trends reports. She has written, co-authored, and edited reports on a range of topics for the Center, including rural development, workforce development, entrepreneurship, the status of women in Kentucky, and health care. Additionally, she has been a co-author and editor of the Center's series of Visioning Kentucky's Future reports which are issued biennially. She created the Center's quarterly publication, *Foresight*, and continues as its editor. In addition to writing and editing, Smith-Mello assumes responsibility for the design of most of the Center's publications. Prior to joining the Center, she had worked as a journalist and held various editorial and research posts. In those capacities, she wrote and edited numerous articles, reports, and publications. A graduate of the University of Kentucky, she holds a B.A. and an M.A. in English. She is married to Scott Mello, a Frankfort attorney, and has two adult stepchildren.



Jane B. Stephenson is the Appalachian Director of the Steele-Reese Foundation and Founder and former Executive Director of the New Opportunity School for Women. Stephenson has served as Executive Director of the Berea Chamber of Commerce, Assistant Professor of Business and Economics at Berea College, Director of the University of Kentucky Human Relations Center, Director of Academic Support Services at the University of Kentucky, and Coordinator of Student Services at the University of Kentucky. She has taught at both the high school (Lee Edwards High School, Asheville, NC) and college (Lees-McRae College) levels and served an academic internship in the Office of Assistant to the Vice President for Continuing Education at the University of Kentucky. Stephenson has served on the Boards of Directors of Berea Hospital, the Mountain Association for Community Economic Development (MACED), Kentucky Arts and Crafts Foundation, Foster Care Review Board for Madison County, Mountain Maternal Health League, Kentucky. National Identification Program for the Advancement of Women in Higher Education Administration, League of Women Voters, and the Encyclopedia of Appalachia. In addition, Stephenson has served as a member of the Eastern Kentucky Women's Leadership Advisory Board and as Chairperson of the Elderhostel State Advisory Board. She has been a Volunteer Coordinator for the Berea Forum and a member of the Kentucky Women's Leadership Network, Leadership Madison County, and the American Association of University Women. She has served as Commissioner for both the Kentucky Commission on Women and the Kentucky Appalachian Commission. She has also served on the Board of Trustees of the Foundation for Adult Education, as Co-Chair of the Women's History Committee at Berea College, and as Chairperson for both the Student Services Division, National University Continuing Education Association and the Committee on the Distant Learner, University of Kentucky. Stephenson's awards and honors include the Woman Advocate for Women Award (1996) presented by the "Women Mean Business Conference," Lexington, Kentucky; an Honorary Degree from Berea College (1995) for commitment to service and lifelong learning; Alumni Distinguished Service Award (1994) from the Alumni Association, University of North Carolina at Greensboro; Athena Award (1991) by the Berea Chamber of Commerce to individuals who attain and personify the highest level of professional excellence; Anderson Medal (1991), the Commonwealth of Kentucky's highest honor for citizens who enhance the opportunity for equality; Women as Agents of Change Award (1990), AAUW, State of Kentucky Award; Citizen of the Year (1989), Berea Lions Club; Women of Achievement (1988 and 1998), state and local award presented by the business and Professional Women of Kentucky; and the Smith-Breckinridge Distinguished Service Award (1999) by the YWCA of Lexington. Stephenson holds an A.A. from Lees-McRae College, a B.S. in Business Education from the University of North Carolina at Greensboro, an M.S. in Business Education from Appalachian State University, and an M.S. in Higher Education Administration from the University of Kentucky.



Dr. Eugene Steuerle is a native Kentuckian and a senior fellow at the Urban Institute and author of a weekly column, "Economic Perspective," for *Tax Notes Magazine*. At the Institute he has conducted extensive research on budget and tax policy, Social Security, charitable sector issues, health care and welfare reform. He also serves as chair of the Technical Panel advising Social Security on its methods and assumptions. Steuerle discusses the future of Social Security and ways state governments and nonprofits may be affected as the federal government finds it increasingly difficult to initiate and sustain a variety of spending programs. He is the author, co-author, or editor of eight books, and more than 125 reports and articles, 500 columns and 45 congressional testimonies or reports.



Randall S. Stevens is Founder and President of ArchVision, Inc. Founded in 1991, the company has become one of the premier providers of architectural visualization services in the United States. ArchVision's clients range from small private high schools, colleges, and universities to the world famous Crystal Cathedral ministries in Southern California. ArchVision has recently expanded its impact on the design visualization community by developing innovative software solutions for representing organic objects such as people and trees in computer graphics. ArchVision experienced tremendous growth during 1998 and 2000 and now employs 14 people with backgrounds based in architecture and computer science. As of September 1999, ArchVision's RPC technology is now being shipped as a standard feature of Autodesk's 3D Studio VIZ software and is expected to reach 40,000 users over the next 12-month period. Stevens is a graduate of the University of Kentucky College of Architecture. He has been a frequent speaker at regional and national conferences on topics ranging from applications for visualization technology in professional sports marketing to the use of computer graphics in complex litigation. Stevens currently teaches computer visualization courses as an adjunct faculty member at the University of Kentucky College of Architecture.

Craig True of Fort Thomas is the managing partner of the Consumer and Industrial Products Group of PricewaterhouseCoopers. True serves on the board of trustees of Northern Kentucky University Financial Foundation and the Northern Kentucky Chapter of the Kentucky Council for Economic Education. He is a former board member of the Northern Kentucky Chamber of Commerce, the Brighton Center in Newport, and United Way-Northern Kentucky. True is a graduate of Northern Kentucky University.



Aldona K. Valicenti was appointed the first Chief Information Officer (CIO) for the Commonwealth of Kentucky and a member of the Executive Cabinet by Governor Paul E. Patton in December 1997. During her tenure she has established the CIO position through legislation and has undertaken a transformation of how information technology services are delivered in state government. The Governor's EMPOWER Kentucky initiative identified information technology as a key enabler. Recently, Valicenti was instrumental in forming the Governor's Office for Technology, which brought several separate agencies into a cohesive organizational structure. The 2000 General Assembly ratified the Executive Order for the reorganization. Valicenti has BS and MS degrees in scientific disciplines and began her career with the Dow Corning Corporation. In 1976 she joined the Amoco Corporation and for the next 21 years held positions of increasing responsibility, including Manager, System Development and Support; Divisional CIO for the Amoco Chemical Company; and Manager, Customer Solutions, Information Technology Shared Services, a supplier of information technology services to the Amoco Corporation. Valicenti is a member and leader of various state and national organizations: First Vice President, NASIRE, Representing Chief Information Officers of the States; Board of Directors, Women Executives in State Government (WESG); Kentucky Criminal Justice Council; Chair, Unified Criminal Justice Information Systems Committee; Information Technology Task Force, National Governor's Association; Information Technology Advisory Council; Geographic Information Systems Advisory Council; Telehealth Board; City of Louisville, Mayor's Information Technology Strategy Council; Industrial Board of Advisors for the Computer Engineering and Computer Science Dept., University of Louisville; Advisory Board Member, Intergovernmental Technology Conference (ITC); Public Safety Wireless Network Executive Committee; Distance Learning Advisory Council; and Postsecondary Education Technology Advisory Committee.



Larry Vignola joined Fidelity and FIRSCO's Emerging Corporate Market in 1997 as the Regional Sales Manager. Vignola experienced increasing responsibility in managing the Sales organization and was named Senior Vice President/National Sales Manager in January of 2000. In this capacity, he oversees all distribution channels including face-to-face, telesales and the Internet. Prior to joining Fidelity, Vignola spent over 15 years with Aetna Financial Services in a variety of roles including the Regional Sales Director, Production Manager, and the Assistant Vice President of Marketing. Vignola has a BA from Florida Southern College.



Dr. John Watkins can often be found in the Canadian wilderness, a snowcave in Minnesota, a high mountain in the Rockies, or a cavern deep underground. This may sound like the field setting of a physical geographer, and once upon a time, Watkins actually was a physical geographer. Then he discovered people, and since 1982 his research has concentrated on the spatial character and behavior of populations. Trained as a mathematical demographer, but armed with ethnographic skills associated with life history narratives, he applies his craft in studies of population aging and the aged, population growth and redistributive impacts, and "spatialized" life course dynamics and theory. Watkins also spends his time on the faculty of the Ph.D. Program in Gerontology at the University of Kentucky where he is the Director of Graduate Studies.



Amy L. Watts is a Policy Analyst with the Kentucky Long-Term Policy Research Center. She received a B.A. in economics from the University of Kentucky in 1994 and an M.A. in economics from the University of New Mexico in 1997. She is currently a Ph.D. candidate in economics at the University of New Mexico and plans to complete her Ph.D. requirements by the fall of 2001. She is a native of Lexington and taught economics at Eastern Kentucky University during the last academic year. Watts' professional interests are in environmental and natural resource economics, econometrics, and applied microeconomics.

William H. Wilson is Deputy Executive Director for Education and Outreach for the Kentucky Authority for Educational Television. He is responsible for the delivery of instructional television services to over 600,000 school children and 35,000 teachers in all 178 school districts in Kentucky. Additionally, Wilson is responsible for the distance learning activities of the network. A native of Lexington, Wilson received his bachelor's degree in history and political science from Kentucky State University in 1967 and master's in educational psychology and counseling from the University of Kentucky in August 1968. Wilson is active in numerous local, state, and national organizations and has received several honors for his contributions in the field of adult and continuing education. Wilson received the Award for Excellence from the Kentucky Literacy Commission in 1992, and he received the Award for Outstanding Achievement in Outreach from the National GED Testing Service of the American Council on Education in 1993. Most recently, Wilson received the Charles W. Anderson, Jr. Award (1997) for achievements in promoting equal employment opportunities and the Lauren K. Weinberg Humanitarian Award from the National Conference for Community and Justice for community service (1998). Wilson enjoys sports (tennis), reading, and music; he is married and is the father of a son.

Acknowledgments

We wish to thank the *Kentucky Leaders for a New Century* for their important involvement in planning the portion of the conference focusing on “Kentucky and the New Economy.” In particular, *Kevin Canafax* and *Anne Maxfield*, co-chairs of the planning committee, were generous with their time and energy. We are also grateful for the financial support provided by Fidelity Investments, Ashland Inc., and Delta Airlines. It was through their support that *Chuck Martin*, chairman and CEO of Net Future Institute, was able to address the conference. We are grateful to Mr. Martin and the other keynote speaker, *Dr. C. Eugene Steuerle* with the Urban Institute, for taking time from their busy schedules to participate in the conference.

We appreciate the contributions of the following individuals who served as panelists or moderators for the conference: *Walter Baker, Betty Bayé, John Berry, Jr., John Y. Brown, III, Paul Chellgren, Stephen Clements, Gordon Davies, Representative Jon Draud, Melissa Evans-Andris, Kevin Fields, Vicki Fields, Kristy Folkwein, Thomas Ford, Wendell Ford, Myk Garn, Jim Gray, Craig Greenberg, Michael B. Gritton, Daniel Hall, Johnathan Holifield, Larry Jones, Nancy Jo Kemper, Edward W. “Skip” Kifer, Kris Kimel, James Klotter, Joanne Lang, Sylvia Lovely, Sue Moore, Jim Nelson, Corrie Orthober, Doug Robinson, Graham D. Rowles, James C. Seiffert, Gerald Smith, Jane Stephenson, Randall S. Stevens, Craig True, Aldona Valicenti, Larry Vignola, John Watkins, Representative Susan Westrom, Senator Jack Westwood, and William Wilson.*

We also want to acknowledge the important contribution of Kentucky Educational Television (KET). *Virginia Fox, Donna Moore, Bill Goodman*, and the rest of the KET staff were a pleasure to work with as we developed the conference. KET went through considerable effort and expense to tape and subsequently televise portions of the conference so that a wider audience of Kentuckians could benefit from these discussions of Kentucky’s future.

We are grateful for the services of *Matt Trebelhorn, Margaret Doyle, Sally Everman, Yvonne Bailey, Janice Clark, Tom Hampton, and Bobby Sherman* of the Legislative Research Commission staff. They made the enormous job of executing this conference easier. We are also grateful to *Bess Council* of ExecSec, who transcribed the many hours of audiotapes for this document. Finally, the services and staff at the Northern Kentucky Convention Center in Covington were exemplary. Their professionalism was not only a credit to the Convention Center but to their community as well.

Kentucky and the New Economy

NOVEMBER 13, 2000

presented by

Kentucky Leaders for the New Century

with financial support from

Fidelity Investments, Ashland Inc., and Delta Airlines

Welcoming Remarks

Michael Childress

Executive Director
Kentucky Long-Term Policy Research Center

Good afternoon. My name is Mike Childress and I'm the Executive Director of the Kentucky Long-Term Policy Research Center. I want to welcome you to the Center's seventh annual conference. This is the first time we have been here in northern Kentucky, and we're very pleased to be in this fine facility. The other thing that makes this conference somewhat unique and sets it apart from the other six that we've done is that we have some partners this year. We have worked on this conference in collaboration with a group, the Kentucky Leaders for the New Century. It was a group of young leaders, 44 people under the age of 40, who were chosen through a process last year. They went through a series of presentations and they have just been a delight for me to work with. In fact, it's been my honor and privilege to work with these folks.

In addition to the group, Kentucky Leaders for the New Century, I would be remiss if I did not recognize the contributions that Fidelity Investments, Ashland, Inc., and Delta Airlines have made in order to get our keynote speaker today, Mr. Chuck Martin, here to northern Kentucky to speak to us.

Also, Kentucky Educational Television, KET, is going to be televising a live broadcast of *Kentucky Tonight* with Bill Goodman in this room at 8:00, and they are inviting all of us to be part of this live audience. It's not going to be a call-in show as it usually is; instead, they will be asking questions and interacting with the audience.

Let me begin by introducing the two Co-Chairs of today's event. The Center's portion of this conference will actually begin tomorrow morning. The Kentucky Leaders for the New Century are responsible for putting together today's portion of the program and the two Co-Chairs of today's program are Anne Maxfield and Kevin Canafax. Anne is with the Roth Partnership, which is an architecture and interior design firm in Cincinnati, where she is the Director for Business Development. Kevin is with Fidelity Investments, where he is the Director of Midwest Communications for Fidelity, and I just want to thank them. It's been quite a pleasure to work with them to put this together and I hope you all will join me in welcoming the two co-chairs.

Anne Maxfield

Director for Business Development
Roth Partnerships

Thank you so much, Mike. On behalf of the Kentucky Leaders for the New Century, I want to thank you for being here today. It has been our pleasure to plan this afternoon's program. We could not have done this without Mike Childress' support, so thank you again to Mike. Our number one goal in planning this program is so that everyone leaves here today with a much better understanding of the value of the fact that Kentucky has to be involved in the new economy if we're going to move forward. So that's our number one goal for today. I would like to thank the panel coordinators. As you know, we have breakout sessions after Chuck Martin's speech, but I would be remiss in my duties if I didn't thank three people who put their blood, sweat and tears and time into lining up some of the best panelists that you'll hear. The first person is Dr. Steve Clements from the University of Kentucky; Joe Washington, Ashland, Inc.; Craig Greenberg of iVentures. Finally, I need to thank this man right here, Kevin Canafax of Fidelity Investments, who is the co-chair, and what you may not know is this whole idea started about in April or May and Kevin, Trey Grayson, Joe Washington and I all met at the Wildflower for breakfast, and we were talking about some ideas the Kentucky Leaders group may want to do. Kevin was so animated and so passionate about the fact that Kentucky really needs to have this education that we brought this forward. So I want to thank him and also the entire Kentucky Leaders group because they supported everything that we're doing. Let me turn this over to Kevin Canafax so he can introduce our top-notch keynote speaker.

Kevin Canafax
Director for Midwest Communications
Fidelity Investments

Thank you, Anne. I would be remiss if I didn't acknowledge all of the hard work that Anne has put into making this program today a reality. I think everybody on the subcommittee that helped to plan today's activities would agree with me that she was the glue that held this together. So, Anne, thank you very much for all of your hard work. It does give me great pleasure to present to you this afternoon our keynote speaker. I was actually going to attempt to without any notes, but, because our speaker is so accomplished and is so involved in so many activities, I thought I would be doing a disservice by not sharing all of those with you to really give you a sense of what a wonderful opportunity we have in bringing Chuck Martin to Kentucky to talk about the subject, "Kentucky and the New Economy."

Chuck has been involved in identifying and tracking technological trends and their impact on business since the early 1980s when he was editor and chief of the largest computer magazine in the world. He has worked at five daily newspapers and has been editor-in-chief of four national magazines. He is a former Editor of Corporate Technology, of Time, Inc. and has written for *Time* magazine's economy and business section. He has hosted a daily TV show on the Financial News Network and has appeared on CNN and PBS, sharing his Internet expertise. He has served on the executive committee of the News and the Future Program at MIT's Media Lab. Our speaker, Chuck, was an associate publisher of *Information Week* magazine and was the founding publisher of *Interactive Age*, which helped chart the beginning of the course of the interactive industry. Most recently, he was Vice President of Publishing and Advertising at IBM. He's the author of *The Digital Estate*, which *Publisher's Weekly* called "a smart survival manual for companies marketing online services and products via the Internet and distinguished by a recognition that the global interactive marketplace is a new business environment where old rules don't necessarily apply," and, if we don't take anything else away from the discussions that we have today, that is the one that we really need to hold close to the vest. The rules are new, it's uncharted territory, there is no road map, there is no past experience to draw on: this is really the advantage that we have in terms of shaping our future—Kentucky's future—in the new economy. Chuck's book is also a *New York Times* best seller. His second book, *Net Future*, was published by McGraw-Hill in 1999. If you would, please join me in giving a warm Commonwealth welcome to our keynote speaker, Chuck Martin.

Keynote Address

Chuck Martin

CEO, Net Future Institute

Martin centered his remarks on life in the world of e-business, as distinct from e-commerce or the buying and selling of things on the web. E-business, he said, involves the transformation of the value chain from product conception to consumer consumption. Ultimately, he suggested, the full process will be driven by the consumer of the product, good, or service, as opposed to the organization.

E-business, Martin asserted, is about the transformation of behavior on a global basis. By way of illustration, he discussed Amazon.com, “the poster child of the Internet,” a company with “a \$17 billion market valuation but no profit.” Amazon, he suggested, is not about selling books, but rather about changing the way people buy. Thus, the revolution underway is reshaping consumer behavior as well as the way business is conducted. People in the Net environment, Martin said, think differently, and that thinking is now shifting to the world’s largest organizations. Innovative thinking now matters most in the business environment, he added.

He outlined seven “cyber trends” that are manifestations of the ongoing e-business revolution:

- *The cyber economy goes mainstream.* As established businesses and industries use the Web to do business, to develop new relationships with customers, an explosion in e-commerce will occur.
- *An integration of the physical and the online worlds.* Bricks and mortar, Martin said, are not the liability as some have argued in the recent past. Instead, they are now clearly an asset in the pursuit of customer satisfaction, as they enable business and the public sector to provide services and goods in a variety of ways. People can research products on the Web, then inspect and try them at local outlets, for example.
- *Re-mediation, as opposed to dis-intermediation.* Rather than the decline of business opportunities that many believed the Web meant as it enabled individuals to perform tasks they once routinely paid others to do, we are now seeing the opportunity for creative entrepreneurs to insert themselves in the value chain, to offer a host of products and services that will enable people to enjoy more free time to do things that are of greater value to them. These opportunities are occurring within businesses as employees enjoy ready access to extensive information that enables “in-bound” telemarketing, sales to customers, about whom firms now possess extensive, readily accessible market information. Martin observed that the technology now exists to use information derived from customer inquiries to global positioning systems, to match supply and demand in real time. In short, he suggested, the customer becomes data. In the new environment, individuals pull what they want to themselves, Martin said, but a vast array of services that firms can and are offering can be marketed to the individual when that relationship is established.
- *The open-book corporation, the age of self-service.* The prime example, Martin observed, is Dell Computers, which sells its computers on the Internet, where customers provide the specifications for the computer Dell then custom builds for them. The consumer, he observed, wants to be a participant, whether he or she is buying a product or tapping a government service. Thus, customer empowerment is key.
- *The move to product modernization.* In the e-business environment, Martin observed, we can aggregate, place things under electronic umbrellas, either by supply or demand. Realtor.com, which is owned by the National Association of Realtors and not a start-up, offers a good example of the aggregation of supply. It enables a corresponding aggregation of demand, getting the buyers in one place.
- *The move to experienced communities.* Martin suggested that the conference audience was a potential experienced community that could electronically share knowledge in real time and thus enable everyone to learn best practice.
- *The move to real time, all-the-time learning.* Information, he observed, is the strategic competitive weapon of the new economy. Every component of business, said Martin, has to become interconnected in the

value chain. “We are really moving to e-everything and that’s not really going to stop.” Thus, the skills needed to participate in the wired workforce are totally different from those of just a few short years ago. Orientation is no longer state nor national, but rather global, and it demands that we cultivate a new understanding of the value of research and information in this arena. People must be trained to learn continuously, and with few exceptions, organizations—business, government, and education—must be linked together to keep education flowing.

The transformation underway is not about technology, Martin observed. It’s about people, about changes in the behavior of people in society on a global basis. The good news, he asserted, is that people such as those in attendance are change agents, who can make things move in a different direction by approaching their business in a totally different way. He concluded that there is no reason we cannot position Kentucky ahead of much of the pack because it’s simply a matter of who steps forward to do it. Most states, he observed, have not.

Questions, Answers and Comments

Questioner

The question is, there’s a lot of governmental regulation you have to follow during e-procurement, bids and that sort of thing. You need to change the laws. I’m saying that only half jokingly because the laws weren’t really created for this environment because the environment didn’t exist. We have to basically change everything behind the scenes, which is a lot of work, because some of these things were created when they made sense. Then they really made sense and they do protect certain things, but it’s really a matter of doing everything differently end to end. But there are states that are starting to do some things, if you look at things that are crossing state lines, for example. Every organization who’s selling to you will be joining e-marketplaces. There are going to be no exceptions. Everybody is going to do business this way, so if you’re the group, you’ll either do it early, the middle, or late. The only issue is really when, so it’s about changing everything behind the scenes that you have to change. But you can actually be a leader in that and set the new standards for the country because it has to be done by somebody.

Questioner

One of the challenges is just getting the old economy to recognize the new economy and its changes. How do you make a bridge from a website being out there and getting the word out that this website is out there and that it’s available and that people can access it? It seems that we don’t make that connection.

Chuck Martin

The question is, how do you bridge the old and the new economy and get the work out once you have a website that’s got something really good? How do you basically get people to go to it?

There are two ways to look at this. When you look at business, organizations tend to mix them , different. In the old economy, when you take the Net, we take the network environment and we do business a better way. We make things more efficient, e-procurement and so forth and then there are the other things over here where we really do business a new way, a totally new way than we ever did before. And, when you start to look at that way, and you start to put things in each column, they become really different. Then, in terms of the website, I tend to look at it not as websites but as really customer value. If there’s a customer value, then the customer will find the value. It’s really amazing. This “word of Net” is very real. Like, people just tell each other, “Oh, yeah, I did this.” Whoa. How do you do that? Here, just type this. And companies have become very successful with no marketing, just because they provided such a value and the consumers found out. You’ve got newspapers here. You’ve got magazines here. You do something really innovative, they’ll find it.

Questioner

It seems like you emphasize business-to-business in your big projection for an increased online growth. Last year business-to-consumer for Christmas was about 2 percent. Do you see that growing at all this year? I self-projected that business-to-consumer for Christmas was going to be less than 2 percent.

Chuck Martin

Yeah, it’ll be 10, 20 billion. It’s like trivial.

Questioner

The problem is, why are we not going to business-to-consumer, but we are going business-to-business?

Chuck Martin

Well, the only thing we measure, why we're not going business-to-consumer, like this Christmas, when this Christmas will be OK online. The reason is it's like shopping for cars. What we do is we shop online and then go to the store and buy it. So, that doesn't get measured as online shopping. It only gets measured if we execute at the website. What's happening is that the big companies have now figured this out. They are linking everything together. And, we'll start to look at things like Circuit City and Best Buy, which was CompuSave, but they changed it. They'll start to look at simply Christmas sales. It'll be difficult to break out whether it's telephone, online, or store because now, with Best Buy, you order online but you physically go to the store to get it and we're going to see much more of that. So I would bet a couple of years from now, we won't even have the measurement of online sales at Christmas. It just won't make sense. It would be like what are our telephone sales this year at Christmas? Nobody knows because we don't track that anymore because it doesn't really matter. And, that's sort of where the Net is right now. The Net's like a baby; it's still early. We're not in a mature market. I mean, some of the dot coms would tell you that.

Questioner

The state government cabinet that I work for, we're trying to take all of our database of information and put it online for people to touch it. We're just getting ready to dive into it and, if I can say the name, Oracle decides they're going to switch what they're doing. How do you plan in that environment? I mean, you know, we were all ready to go with a certain way to do it, and now we find out that they're going to change. How do you cope with that?

Chuck Martin

Advil. (Laughter) No, just kidding. That wasn't a drug question. It was a question about how do you keep up when you plan this whole thing and the technology provider changed the platform underneath you. You basically have to roll with it. There's no other way. The good news is it gets changed before you implement it as opposed to right after and then you're stuck with the old one. Like on day one you've got the old version. That's really depressing. It's a mind-set of saying, OK, things changed again. And, that's really tough because we look for a stable world and it's not stable right now. It's just difficult and you can change jobs. That's what people are doing. I'm only saying that half jokingly. Not you personally, but that's what people are doing because it's so easy to change jobs now in this arena as long as you have, like, three minutes of experience in e-anything, you're worth gold and you can work pretty much anywhere.

Thank you so much.



*Keynote speaker Chuck Martin responds to the applause of those on hand for his presentation on the Net Future.
At the right is Kevin Canafax of **Kentucky Leaders for a New Century**.*

Government's Role in the New Economy

Moderator

Craig Greenberg, CEO, iVisionary Ventures

Panelists

John Y. Brown III, Secretary of State

Michael Gritton, Attorney and Director of Strategic Planning for the City of Louisville

Aldona Valicenti, Chief Information Officer, State of Kentucky

Craig Greenberg

I am the CEO of iVisionary Ventures, which is a venture capital fund and strategic consulting company based out of Louisville and Lexington. I also currently serve on the Kentucky Innovation Commission, recently established by Governor Patton and the state legislature to advise state government on issues related to high-tech growth throughout the state.



Craig Greenberg

Let me introduce our panelists here with us today. Left to right, first we have Aldona Valicenti who is the Chief Information Officer for the Commonwealth of Kentucky. Aldona joined the Governor's Cabinet as Chief Information Officer in 1997, has led the transformation of state government in getting technology into all areas of state government, established the Governor's Office for Technology and, prior to joining us in Kentucky, held numerous roles in information technology systems in the private sector with such companies such as Dow-Corning and Amoco.

Seated to my left is Michael Gritton, who is the Director of Strategic Planning for the City of Louisville. Michael is an attorney who graduated from Columbia University and Columbia Law School and, prior to coming to Kentucky, was with Mass, Inc, a very innovative and forward think tank, based out of Massachusetts.

And on my right is John Y. Brown, III, current Secretary of State of Kentucky. John was elected in 1995 as Secretary of State and is very fortunate that he is not the Secretary of State of Florida right now. (Laughter) However, he is a former Florida resident, so, as good a job as he is doing in Kentucky, we could have used him in Florida for one extra vote. Not that politics has anything to do with this panel whatsoever. Since John took office as Secretary of State, he has been very involved in a lot of technology initiatives, from implementing the one-stop business licensing to putting all sorts of information and access to government information on the Secretary of State's web page with an online business database, a lean information system. And with respect to voting, he has also used technology to enable voters to register over the Internet and have up-to-date election information on the Secretary of State's web site.

So, that's who we are and, hopefully, we will have a good discussion here. After we get into this, we'll open it up for questions, so start thinking of some so it's not just me leading the discussion here. First, Aldona, if we can start with you, I want to talk about where we are in Kentucky with respect to government's role in the new economy, and how government is using technology. Then how is government interacting with businesses to facilitate, promote or hinder business in the new economy? Could you just give us an overview of how the state of Kentucky is working with technology initiatives to improve the delivery and efficiency of government services throughout the state?

Aldona Valicenti

Well, I think the role of state government is probably twofold or threefold. So let me touch on the first one. First of all, I think we have to use information technology to make ourselves more efficient. And you heard reference earlier today from Chuck Martin that *Empower Kentucky* had a web page out. That's Governor Patton's initiative to really look at not only how we re-engineer the processes by which state government works, but then also how we enable them, through information technology. That's probably one of the first things that state government has to do.

Secondly, state government many times should lead by example. If you take a look across the states, we are not the West Coast or the East Coast, where technology has been the driver for the economy for many, many years. State government has an opportunity to really be a leader by example, and that's exactly what I think you will see. You have already seen some of the examples, again shown by Chuck Martin.

The third is to provide services that could really benefit the citizens that may not be able to traditionally get services. Let me give you a couple of examples. To apply for jobs, all those forms are on the Internet, so you don't have to come to Frankfort. You don't have to wait for a form to be sent to you. Secondly, the second largest challenge for Kentucky, or maybe the first if you listen to the Governor, is education: virtual high school and virtual university. That's an opportunity to provide services by the use of information technology that traditionally you haven't been able to do.

Craig Greenberg

Michael, with respect to city government, what role does city government have in terms of providing technology to make access to government services more frequently available and better available?

Michael Gritton

Craig, there are two kinds of things, I think, and they come out differently. One is what we're doing about the new economy in terms of companies or jobs in a place in Louisville where I work for Mayor Dave Armstrong. The second is, how do we deliver those kinds of services ourselves as city government or as a company with constituents, as Mr. Miller was talking about?

On the first question, in terms of just new-economy companies, what we've been doing in Louisville, as an example, is Mayor Armstrong has put together something he calls "e-Main USA," which I hope everyone has heard about; but, if you haven't, give me just two seconds to tell you. Part of what he has tried to picture in Louisville is a physical place for us to locate e-commerce or e-business companies. And one of the biggest hurdles or barriers we face, both in Kentucky as a state and in Louisville as a city, is our image of ourselves; we can't quite believe that we could actually do this. So when Mayor Armstrong started talking about e-Main as a place on East Main Street in downtown Louisville right next door to this beautiful park that we now have on the Riverfront that we've restored, right near a lot of old buildings that are now starting to be restored for housing and other business opportunities, the idea literally almost caught fire. The next day, the phones started ringing at City Hall, companies wanted to locate there. It was as if, once you describe the vision and gave people an idea, wow, we could actually be a player in this area. All of a sudden there is the pent-up energy and pent-up demand to try to be a part of that, so part of what city or state government does is try to help us change our image of ourselves. I mean, this industry is so young. We've already lived through ups and downs of the stock market, or of the NASDAQ, but it's still very, very young and we can very definitely be a player in it. Part of it is just a change in how we think about ourselves, right?

Then the second thing is, the Mayor went to one of these conferences that Aldona goes to a lot and heard industry people talking about eating their own dog food. So now every time he gives a speech all the staff people sort of cringe because we know at some point he's going to talk about eating his own dog food, but what he means is we have to figure how to walk the walk and not just talk the talk. Believe me, it's more difficult than you think because in government we're not really being pressured the way Wal-Mart or Barnes & Nobles are to change the way we do business every day. There's a certain amount of attention or interest in whether you are going to be doing this kind of stuff. People ask if they can pay parking tickets online or find registration stuff, but there isn't the kind of push that you would expect from customers. So part of that is just trying to figure out how to create enough pressure internally to get us to that point where we start delivering online the kinds of things that Aldona talked about. I'll stop there and we can come back.

Craig Greenberg

John, turning to what government does for businesses in the private sector, what is state government currently doing to promote new-economy businesses or to assist businesses to be more competitive in the new economy? I know your office has a lot of influence in that sphere.

John Y. Brown, III

Thanks. First I'd like to say that I think that that pressure that Michael just mentioned that some of the "so-called 'old economy' companies" are now feeling is beginning to be felt by governments. A year or two from now, citizens who are used to transacting business online are going to demand the same kind of simplicity and ease that they have in the private sector when they deal with government. So I think voters are going to mandate that government move in that direction. There was a survey done for Republicans by the Anderson Consulting Company, just a few months ago, that found over 80 percent of registered voters think that providing services online should be a priority for elected leaders. And 60 percent said they would like to be able to renew business and drivers permits online, pay fines, and also gather information, such as the service we provide for entrepreneurs that allows them to collect the

information they need to get together all of the permits and licenses to start a business. It's the cutting through of the red tape that technology provides that I think has spurred the kind of incredible production we've seen in our economy over the last eight years now. Productivity, according to the Labor Department, is at an all-time high this year and there's no reason we can't deploy those same technologies in government to make government more responsible.

Ideally, people want to deal with government face-to-face, but that's expensive, both for the citizen and for the government employee. The other ways of interacting are through mail or by phone. The nice thing about the Internet is it came along and provided us an entirely new way of interacting with citizens. So now, really, about 80 percent of the routine transactions in our office can be handled online, which frees up our workers to handle the other 20 percent who need that face-to-face interaction to resolve their problem. We heard a lot today about the B2B trends and the explosion in B2B business. I think what we'll see over the next three or four years is more and more talk about G2B, government-to-business, and G2C, government-to-consumer, in terms of assisting new high-tech companies.

I want to delineate there's e-government services, which is providing services that are streamlined and simpler to citizens. But then, I think it's a separate question of government's role in helping to attract and retain high-tech businesses. I think it's very important that government play a role in building the infrastructure that is needed for new-economy clusters. The high-speed bandwidth lines are in many ways going to be the water and sewer lines of the 21st century. If you don't have high-speed access, it's about like not having water there. Businesses aren't going to come regardless of the strategic positioning of Kentucky, the workforce, or the incentives that are offered. So, it's very, very important that we create that infrastructure. I think that the incentives are important, but what I've found is so critical in the so-called "wired" states that I've had an opportunity to visit is the role that incubators and accelerators play. It's sort of like the difference in a high school basketball player that goes right to the NBA versus going to college. Every now and then the ones that go right to the NBA can make it big, but it's usually in their best interest to go to college for a few years, hone their skills, bulk up, and then they're ready for prime time. That's the way it is with a lot of these high-tech companies. It's one or two people who have been hiding out in the basement for a couple of years and they come up with a wonderful idea, but they don't have the management skills, the business skills, the connections, or the networking, which is what e-Main Street is all about. But providing the incubators usually at the universities typically is a tremendous asset and role that government can play in encouraging and nurturing these homegrown companies. Unlike the '70s and '80s economic model, we're not going to be able to lure in Oracle and Cisco to Kentucky by offering them big tax breaks. We need to home grow our own and then hope we can grow clusters that offshoot from those companies. I'm feeling like a typical politician that's talking far longer than I was expected to and, just 30 more minutes, I have a few more things that I want to say. (Laughter) Actually, go ahead and ask your next question.



John Y. Brown, III

Craig Greenberg

Thanks. Just out of curiosity, while we're sort of wrapping up what's going on in Kentucky today, we heard Chuck talk about all those numbers, about how many trillions and billions of dollars the business-to-consumer and business-to-business markets are. I recently saw that currently the government procurement area is a one trillion dollar business, not online, and there was even the question about what can be done about that. Is Kentucky doing any of its procurement online? Is it moving in that direction?

Aldona Valicenti

All of our bids are online. Any vendor can go and see what's posted there, what's available. And, in fact, the purchasing area is looking at auctions and reverse auctions and all that. That's been very, very successful. I'm sure that many people have heard about Pennsylvania when they needed salt in the winter, and they did an auction and actually got it for millions of dollars cheaper than they would have been able to purchase it. So, most states are looking at all that kind of stuff to make them much more efficient.

But, let me talk a little bit about some of the things that Secretary Brown referred to. Partly, it's Kentucky's image and I think one of the things that we have to do and we are doing right now, is changing Kentucky's image. How we present ourselves to the rest of the world today is really through the web pages. People don't have to travel here. They don't have to come here. They look to see what we offer, either on the web pages or what services there are, how we get ranked, whether we ranked at the bottom of the heap of the states or whether we're ranked somewhere in the middle of the pack. And every once in a while we break through and make it into the top ten for education, for K-12 use of technology, and sometimes for how we present our web pages. That's very important and, in fact, many businesses will look to see where they might set up future businesses by looking to see how well states present themselves on the Internet. That's a fact of life. We may not like it, but that's how it is.

The other issue is that the expectations for government are not driven by government: they are driven by the private sector. The minute the private sector can do something, that will be expected of government. I want to give you an example. If you think back many years ago, when photos were delivered in one hour, did you know that you needed them in one hour? Probably not. But once somebody delivered them in an hour, everybody else had to deliver them in an hour. And, I would tell you that the same thing exists on the Internet today. We probably don't have 50 percent of the citizens asking for services, but we have a number of citizens who are asking for services, and, as long as they can do that with the private sector, it will be demanded of the government. That's one way we can show our competitive nature.

And, then, the whole issue is, how do we get businesses and how do we help get them started in the knowledge-based economy? I think that's totally a challenge for state government. Traditionally, we've recruited manufacturing because, frankly, we still need them. I don't think that we ought to walk around thinking that we don't. We do. But, we have to walk a parallel path, and that parallel path is that we have to attract and make our state also attractive to start-up businesses and to move here in a totally different economy. And those are one- and two-people operations, sometimes working out of a nice facility, maybe like in Louisville, but many times working out of their garages and out of their basements. So, the whole world has changed and it's also changed for state government.

Craig Greenberg

Michael, you're not an elected official, so I can ask you this question. When we're dealing with all these issues of transforming the way government provides services and how it helps businesses that have fundamentally different models than they used to going back over the past decades, who in Kentucky government are the people who understand these issues? Are you finding that the elected officials, either throughout the state or even the country, understand these issues or are they totally reliant on their staff, which causes a disconnect that hinders government's ability to keep up?

Michael Gritton

Well, I'm lucky in that I'm a Kentucky native, but I've lived outside of Kentucky for most of the last 20 years and just moved back a year ago. I spent seven years in New York City and seven in Boston. What I found really encouraging is that there are a lot of really top-notch people like the Governor, the Mayor, the Secretary of State obviously, the State Treasurer, who are clearly focused on both trying to change Kentucky's image of itself and its image to the world around these technology issues.

I used to love to tease my friends in Massachusetts because they think they sort of invented education reform, but I always have to go back and remind them that they adopted their law in '93 and they based all of it on the Kentucky law that we adopted earlier. And, in fact, there are examples like education reform and some of the things we are now doing around changing the secondary education system that are very, very creative and give me a lot of hope that Kentucky is getting the message. When you focus on government's role in the new economy, we can't do a whole lot to pick a company and say that's the one we know is going to win because even the fellow who just spoke to us has no real idea of what the world is going to look like in two or three years. It's changing too quickly, but we know that no matter what those companies look like, they are going to need to be very smart with new and better skills than they needed 20 years ago to be in those companies. Governor Patton, Mayor Armstrong, and a lot of elected officials give me encouragement that they're focused intensely on workforce development and education. So that makes me feel good.

John Y. Brown, III

Even though I'm an elected official, I wouldn't mind taking a shot at that because I think that's right. I think if you look at the states that are leading the way with e-government initiatives or in trying to grow high-tech economies, what you see is very strong leadership at the top. Two examples come to mind for me. Aldona mentioned Pennsylvania where the state web page is on license plates. Every time you go to their web page the first thing you see is the e-everything. It's e-now. And, Governor Ridge does a national ad for Pennsylvania. You don't know it until the end of this minute-long ad, but it sounds like it's an ad for a venture capitalist that's trying to attract Internet companies, or it's an incubator, you're not sure, and then he comes on at the end and says, well, it's neither, it's Pennsylvania, we want you to come here. The other is Michigan with Governor Engler. He also has led, and in both those states they're old-economy states. In Pennsylvania the steel business has been their history and Michigan, auto manufacturing, so they've got huge challenges ahead of them. But, because they're out promoting their states, that has an inevitable trickle-down effect.

Secondly, I think it's really important that the public understand that e-government initiatives aren't going to save lots of money up front and cut through the hassles of government, building up unrealistic expectations. Most of the major projects will take five to seven years to see taxpayer savings from it, but, unlike government's old mindset that you buy cheap and you use forever, you have to keep investing in the current technologies up front, so that you can save down the line. Connecticut's governor had problems with that. He ran on the campaign that everything was

going to be accessible from your bedroom, by mouse, and he sold the public a bill of goods that he couldn't fulfil because he needed to spend money, invest it at first, so that there would be a payoff down the line. You also have to sell the legislators. If you want to see change in government, and change in the way small businesses are dealt with, you're going to have to contact your legislators and let them know that this is important to you. This is important to your community. So, I think all those factors together are going to be challenges and will determine how Kentucky emerges over the next five to ten years in comparison to other states. I think right now we're doing a pretty good job, but pretty good isn't good enough in this game. It's a whole different way of measurement and we need to be as aggressive as we possibly can. I read that we were outspent by some of our sister states four-to-one in research and development and that's something that can't continue the next five years. So, thanks for letting me answer that question.

Craig Greenberg

Thanks. Aldona, thinking about looking forward a little bit, in Kentucky, we've got a lot of large problems throughout the state. We've got deep poverty in eastern Kentucky. One of our major industries, the tobacco industry, is in decline. A lot of manufacturing plants are closing and moving to other states or countries. We've got a lot of issues that we have to deal with. Some suggest that the state of Kentucky should give up on solving those problems and strictly move to new-economy issues. How does the state balance its priorities with respect to helping create a vibrant, new economy, but at the same time, to use a cliché, not leave anyone behind that hasn't made the transition?

Aldona Valicenti

Well, that's a tough question, and I'm not sure that any one person has the answer. But let me offer a few thoughts. For one, work is distributed around the nation and, frankly, around the world now; so that where you live is a lot less important than what you do, and Chuck alluded to that in his talk. The ability to have people almost anywhere that can perform the work is possible because we do have an infrastructure. By the way, Kentucky did help build the infrastructure through the Kentucky information highway, and we did that as a public-private partnership because state government needed that backbone. It now also serves Kentucky and the citizens at a different rate structure. That was a good thing that Kentucky did.

Education will still be the answer. You have seen, for instance, we have call centers now. The call centers will depend on people who have an education, who can answer the phone, and who can intelligently go through and look at whatever diagrams are in front of them, if it's a call center for General Electric or a call for anything else. So there's an opportunity to bring work to areas that have never had work before because it's a lot less dependent physically on where the people are. So education probably will continue to be the main driver. I don't think there's any question about that.

I think venture capital, in some cases, has been an issue because Kentucky has not always been viewed as a state where we want to bring venture capital, but I've been told that that's probably less of an issue. If there's a good idea and if there's an educated workforce, you can locate folks almost everywhere. I think we still need to recruit manufacturing jobs, and we will continue to do that. But let me talk a little bit about the traditional manufacturing jobs because those are evolving also. We're not thinking necessarily about those manufacturing jobs that traditionally depend upon brute force to get the product out. They're now dependent in many cases on robotics, on being able to do high-speed assessment of all kinds of intelligent devices, whether a product passes quality assurance. Again, you will need a qualified workforce; that is at the heart of what we need to do. It's not the traditional manufacturing job, since manufacturing is changing in front of our eyes.

It's changing again by the use of information technology. KCTCS is an example where we have an opportunity to address two kinds of problems for Kentucky. One, we've got an ability to educate people who can immediately, through certification, move into good paying jobs. They can move into information technology positions. They can move into positions in the manufacturing sector. Secondly, through KCTCS, we've got an opportunity to actually educate our small businessperson. Kentucky is 85 percent small businesses yet Kentucky has one of the lowest numbers of web pages in the nation for the small businesses. This is not because the infrastructure isn't there, but because we have not done a very good job of educating the folks what a web presence might mean to a small business. They are not aware that they could purchase their raw materials in a different way or that they can now look for customers maybe around the world instead of just Kentucky. There's an example that just sticks in my mind. I didn't realize that more silver jewelry was sold by the Arizona Indians to the German people than almost anybody else in the United States because they were able to get their goods up and show them on the Internet. So, we've got lots of opportunities and I think that we need to be very, very creative by using all the resources that we do have.



Aldona Valicenti

Michael Gritton

If the question is about balancing the New Economy versus the old, again, having been outside of Kentucky for a long time and coming back and not being an elected official, let me tell you what I think about it. The first thing is I think Aldona is right when she's talking about manufacturing. My dad spent 30 years as a factory guy at Ford Motor Company and one of the strengths of the Louisville area continues to be manufacturing. In the Lexington area we've got Toyota and others and there are lots of spin-off companies associated with that. That can continue to be a strength of our state, I think, but it has to be in the context of what Ms. Valicenti is saying. When my dad was a factory worker at Ford, they were hiring people by the hundreds in the 1960s and they put you on the assembly line and that was the rivet that you screwed and that was the end of the story. They just wanted you to show up every day.

The job of a factory worker now is completely different and more and more is incorporating basic literacy and computer skills that would have been completely foreign to my dad or anybody else that got hired with him back in the '60s. So that's why government's role loops back to education, because we don't know exactly what that factory job is going to look like five years from now. But we know that, if you graft the literacy demands of jobs in the manufacturing industry, the graft looks like this.

Tobacco is a different subject. Again, it's a little strange to come back to Kentucky after being gone. It's not the kind of thing that you want to try to give up on, but in Massachusetts we had areas of the state in the turn of the century that were the shoe capital of the world. They made more shoes than any other place anywhere, but they don't make shoes there any more because people could make them cheaply some other place or products or just things that people used in one era and didn't in the other. In the big picture there's no doubt that tobacco as an industry is on the way down and I know elected officials aren't particularly allowed to say that, but that's just what it looks like. It's weird to come back and work in City Hall in Louisville and have smoking sections and have the elevator smell like smoke. In Boston, they've gotten rid of all that stuff now. All the restaurants are smoke-free. And, if you've ever traveled in Europe where the restaurants are intensely smoky and you came back, you think to yourself, wow, this is nice. Well, it's the same gradation, when you're in Boston, when you go into a bar and it doesn't smell like smoke, all of a sudden, like wow, this is nice. Why didn't they do this a long time ago? What we have to do is not to tell people they're out of a job or they've picked the wrong industry or the wrong commodity. But we've got to try to do what the Governor and other people are trying to do, which is to help them transition to something that is going to be a successful product.

The message of Mr. Miller and the message of all of us here today is embracing change in a way that we're just not used to. Again, when my dad started working at Ford, we in my family knew unless something catastrophic happened, he was going to work at Ford for 30 years and retire and then he would get his pension and everything would be fine. That is not the world that most of us in this room face today, but getting the message out to Kentucky people to get used to that and to think of yourself as a farmer who used to farm tobacco, but now is going to farm something else, is not an easy battle to wage. And, so, those are things both whether you're in that old economy or in the new economy, trying to get us used to the level of change that we're going to face in our life is a very big deal because I don't particularly like it, I can't imagine anybody else does either, but I think that's the way it's going to be.

Craig Greenberg

Thanks. Let me ask one more question here to John, and then we'll open the floor to questions. I've got plenty more, but it'll probably be more interesting to hear what's on your minds, and what you've got to ask these folks up here. John, we're talking about all these new initiatives to promote the new economy. Have you had a challenge within your office of allocating funds? Simplistic things, like creating web sites, are not cheap things to do if you're going to do them well, like you have with the databases to search companies. Has it been a challenge to get the funds to do that and what have you had to give up in order to pay for it?

John Y. Brown, III

It has, but I think that's changing. Let me preface this by saying one of the tensions that is pretty much a constant in e-government initiatives is whether to have services centralized and performed by one central agency, or to encourage the civic entrepreneurship in each agency since they're closer to the people they serve, developing their own services. There's no clear answer. Some agencies are really enthusiastic about providing services over the Internet; others have to be dragged kicking and screaming. When I came to office we did not have the resources to do a lot of the things we're doing now, but, through attrition, we gave up three or four positions, replacing them one at a time with IT workers: programmer, network analyst, and web developer. We're able to offer services that we otherwise couldn't. I think now with Aldona as CIO and head of GOT, we want to have some sort of uniform standard so that government agencies can at least communicate with each other. But I've got to tell you, from some of the projects I've worked; that has been a tremendous challenge.

We're all under one state government, but it's not like a business where you're sharing information constantly, where Human Resources knows what Marketing's doing and Marketing knows what R&D is doing. I don't know what is going on down the hallway and they're not going to let me know if they don't have to. So there's turf wars and, when we tried to develop the one-stop licensing idea for businesses, a very simple idea, it terrified a lot of people. I give Aldona tremendous credit for the initiative she's been able to get through. I mentioned legislators and citizens, but government workers are also an obstacle. They need to be sold on the idea of why this is a good thing. It comes down to job security and the bottom line is if you want to get something done, you have to promise them that they won't lose their job. That can be done and they are freed up to do other things that have a more face-to-face personal touch. But, in the last few years, we've seen in government, in Kentucky, those walls slowly start to come down. This is phase I. I think after phase II, Aldona or her successors will be able to do just about whatever they want to. But I think that's still probably the number one obstacle. That's the number one obstacle I've run up against. I can't speak for Aldona. But, is that a fair statement? OK. You don't have to laugh or anything.

Craig Greenberg

The concern that I have is, as you alluded to, the fact that it's necessary for state government to educate business on e-commerce and even committing tax dollars to educate business in e-commerce. Even though I'm a Democrat, let me ask you a Republican question. Why not make that market-driven? In other words, why spend tax dollars on businesses which may or may not succeed? I would think that we should be focusing on our delivery of education service. You mentioned workforce development, which is by far the longer-term solution. Why wouldn't the greater emphasis be on improving workforce development through the electronic media to improve training skills as opposed to spending tax dollars on business?

Aldona Valicenti

The part that I was suggesting is really that there's an opportunity to provide sometimes short-term seminars or courses to small businesses. Those are really done on an ongoing basis and, if you look across the country, those have been very successful where people come in. I don't intend for this to be a long-term engagement of education, but rather to be maybe a one-day course or two-day courses. They have been done very, very successfully in community colleges to bring people in and show them the advantages of doing their business on the Internet. So, I don't know if that helps to clarify it, but I hope that it does. I very much agree with you that the long-term solution is really education.

Questions, Answers and Comments

Questioner

I'm hearing a lot of cheerleading that the government needs to get behind the new economy and sort of be a support player. I'm not hearing anything about government's role in monitoring potential negative aspects of the new economy. I'm talking about such things as the erosion of the traditional tax base, sales tax, through interstate commerce or global commerce, for that matter; whether or not the unfettered use of the Internet is going to be a serious privacy issue, and even access to pornography on the Internet for our children. Does government have a role in looking at those sides of the question as well?

John Y. Brown, III

I think absolutely because I don't think that any sort of vision of the new economy can succeed with customers enthusiastically participating unless they feel very, very sure about the security in the web site they're transacting business with and that the information that they're sharing is going to be private. And, so, yes, I think government has a major role to play to set those boundaries and guidelines. That's a battle that we're seeing now played out in Washington and, more than likely, it will have to come at the federal level. And, we've seen some federal laws come out, the digital signature legislation that came out in the last year, but I do think that, if government's going to be a watchdog on some of those negative effects, I think the public's two biggest fears are privacy and security. And government has just as much of a responsibility to ensure those to the greatest extent possible as they do boosting and cheerleading and trying to aid in that economic development of the new economy.

Aldona Valicenti

I think the government very much has a role in that and, if you look at the privacy issue, that is an issue that is being faced by every single state, including the federal government. If you look at the web pages, and I would suggest that you go and take a look at some of the state web pages, they have a privacy disclosure. That means that we have to audit ourselves and live up to it. We do not sell data. Now, I will tell you also, on the other hand, that, if we cannot

integrate some of the information from one agency to another, we will never become efficient. We need to pass data back and forth, but that would openly disclose. That's the duty of government.

And, security, I would offer you is a physical issue. Is your network secure? Is your computer secure? And we have to live up to standards and again get audited. Privacy and security are the two hottest issues today. If you take a look at most of the polls that are being done with private citizens, that's probably their single largest concern. I would also tell you that those statistics are very sensitive to age. People over 45 or over 55 have a much greater concern than people in the 25 to 35 category, and partly it's because we now have a whole generation of young people who are growing up with the computer and are less concerned about that. I would also suggest to you that, as consumers, we give rights to our privacy every single time we use one of the value cards. That means that you signed up to get some economic benefit for gathering data.

Questioner

I really am more concerned about the workforce issue than the technology. How many people in this audience are under the age of 40? Raise your hands. How many in the audience are over the age of 40? We have a workforce. One of my concerns with this nation now is that there is no growth under 40. All the growth is 40 and above. Only two states have growth rates among 18 and below, those are Texas and California; much of that is undereducated with a 69 percent high school dropout rate. Basically, the issue is not how do we get a new workforce, but how do we retrain the old workforce, which will be the workforce we will have in 10 or 20 years. That's going to be an issue. The young workforce in this country is naturally shrinking. Kentucky has fewer young kids today than we had 100 years ago. We have three times more people over the age of 40.

Michael Gritton

I just wanted to jump in on that on one point. I think it's a very valid point, obviously, so I wanted to loop back to Massachusetts again just in terms of how we think about our workforce in terms of our competitors. The think tank that I used to work for in Massachusetts is getting ready to publish a report in the next couple of months, I think, that focuses on the literacy levels of adults in Massachusetts. What it finds is, even in a state like that, when people think of the image of Massachusetts, it's MIT and Harvard. But, even in a state like Massachusetts, roughly half of the adults that are in the workforce have literacy levels at the two lowest levels of the NOW survey, if anybody's familiar with that. It's the closest thing we could come up with at this think tank as a shorthand for if they have the literacy skills for the new-economy jobs or not, and roughly half of the adults in Massachusetts don't. You can only assume that even more of the adults in Kentucky are going to be in those categories, so the point that the questioner raised is a very, very good one. Not only do we have a continuing challenge to try to raise achievement levels through our K-12 system, and we're making progress on that, though not nearly as quickly as I would like to see it, but then we face this challenge. I don't think anybody around the country has a particular handle about how to retrain, whether it's a tobacco farmer how to grow a different crop or a factory worker whose job vanishes because it moves some other place. That's the flip side to that globalism stuff and we're just not very good at that, but I think we're going to have to get good at it to meet the challenge you're describing.

John Y. Brown, III

Also, I think a couple of years from now we'll stop making this distinction between old economy and new economy because all businesses will be utilizing technology in some way and it's just a tool. The very foundations and basics are going to remain in force and effect. You always have to have good management. You don't have to be an IT person or a techie to be a good manager, even of a high-tech company. Cisco's President, John Chambers, does not have an IT background, but the change that companies have had to make is bringing their IT people to the table for the weekly meetings and getting input from them about how they can better serve their customers. I think e-Main Street's all about the management side of the new-economy companies. It's not enough to have high-tech knowledge. You have to know how to manage people and interact with people. I mean, those sorts of skills are going to remain valuable.

And lastly, I just want to say that I think the next killer ap, as they call it, killer application, coming out of technology in the new economy is going to be personal service. Aldona mentioned these call centers. That's the way we interact with a lot of these companies. I'll give you a great example. Yesterday I was on the phone off and on all day with Hewlett-Packard and "Excited." It goes for government, too. Those companies that can provide professional and courteous service, where you don't have eight numbers and still they tell you you've got to call someplace else, you can get through to someone and they can courteously walk you through whatever question or problem you have. Someone had legislation that wanted to keep people out of phone jail. A person had to answer the phone and we do in our office. I think that's absolutely vital. So people with good communication skills and human skills are going to be very, very important. At Hewlett-Packard, I finally got through after several hours. The guy asked me how the weather was. He was real happy. I don't care. I don't even know where he is. He could be in Africa, as far I know. And, then he kept referring to me as "ma'am." For 30 minutes we had a conversation and I

would interrupt and say, "Uh, actually it's mister," and he said, "I just spent all day talking to women." And last night I decided I was going to sell all my stock. I didn't have any stock in Hewlett-Packard, but I was furious. By contrast, the other company was very courteous, very professional, and asked if they could help me in any other way. They've got my business. My next computer is not going to be a Hewlett-Packard.

Craig Greenberg

John, we must share that you mentioned Excited Home. We must share the same Internet service because I was on the phone last night with Excited Home as well. They are good. Last night there was just the Kentucky outage that was causing problems. I just want to quickly add two cents in here, also. I certainly don't have an answer to your very good point, but I do think one thing Kentucky can do better is provide better tax incentives to existing businesses to retrain their workers than they currently do. Ultimately, the balance sheet at the end of the year speaks for the company and, if there are ways that their incentives to stay in Kentucky and retrain the workers better provide the services necessary for the company as it evolves, I think that will keep companies here as well as provide more opportunities for the workforce over 40. And, let me also say, I think another problem that you raise isn't just the problem that our workforce over 40 needs to be retrained but it's the fact that we don't have a growing workforce under the age of 40. I don't know the reasons for Texas and California as being the only two states, but I've got to guess that it has something to do with the immigration, probably. But I will add that in Kentucky we can try to duplicate those statistics in under-40 growth. However, let's not try to necessarily do it through illegal immigration, but by attracting more new-economy companies that are attractive for our young high school, college, and postgraduate students that want to return home but can't because the jobs that they want might not be here. Yes.

Questioner

My agency consults in marketing and economic development in a number of states, including Kentucky. I've been impressed over the years at the innovative approaches Kentucky's taken to vote in historic revitalization in the small towns as well as cities and also the education reform act. It's kind of learning by whole body immersion approach. And it seems that there's the opportunity here to have state incentives, by virtue of the infrastructure questions that you're talking about, to rural areas as well as the main street, to bring together the historic downtown revitalization of small towns, medium towns, and large towns in Kentucky and also provide incentives to startup businesses to this 85 percent of small business entrepreneurs, as well as with kids. As you know, my kids and your kids are not bothered by interacting with the computer; provide opportunities for them to come home to their real towns and start the businesses and thereby have that kind of workforce development you're talking about. It seems that it's in the infancy but the incentives like the restored tax credits, for example, are tremendously exciting. We need the kinds of incentives where you can give direction and support to the revitalization of rural places in Kentucky as well as to the ability of all our children to be able to work back in those towns.

Aldona Valicenti

Let's talk a little bit about the Innovation Commission. The Innovation Act was passed as House Bill 572, which is really looking at several different issues. But one of them is exactly to provide economic incentives and to provide them for all technology. And, it's really a marrying of the postsecondary education effort and how to really get much more entrepreneurial about what we could start up. There are two separate pots of money, each one representing about \$20 million, so you're looking at a \$40 million investment for technology companies. The other is establishing a Commissioner of Innovation with the Economic Development Department, whose whole life will be dedicated to thinking about how we make this a state where you can have many of the technology opportunities; and that needs to go parallel with what we're trying to do with other economic development. It's underway. You probably have not seen or heard enough of it; and Craig sits on that commission which was created really to help from a private sector perspective.

Michael Gritton

I do want to say one quick thing about e-Main without bragging about it too much. What's really neat about that links to your comment; it is creating a lot of spin-off activity in an area of downtown where two years ago not much was going on. Now, again, some of the infrastructure was laid with this waterfront park that we've built down there, but there's now a new downtown housing tower that's being built right on the edge of it. There's an incubator company called "be-catalyst" that's located right around the corner from what's going to be the cornerstone building in e-Main. So, just by creating this thing and starting to do the legwork of making it happen, a whole downtown area of Louisville is undergoing the renaissance that you're describing and I'm sure it can happen in other places, too.

Questioner

We often talk a lot about regionalism. That term means different things to different people, but is the government involved in any kind of collaborative effort between cities, between regions, or even between states? Instead of just

focusing on e-Main, for example, or Lexington, or northern Kentucky, is anybody looking at linking all of those, or perhaps even linking Kentucky and Ohio and other states for a technology corridor in the Midwest? Is there any kind of discussion like that going on?

Michael Gritton

I know there are a lot of efforts in Louisville that are regional to the extent that they take in southern Indiana. Our Workforce Investment Board, just as one of many examples, is regional and takes in those counties on the other side. The political reality is, it's very difficult to make that happen. I mean, again, we just passed merger, so we're going to be spending the next two years trying to merge Jefferson County with the City of Louisville. There are regional commissions that stretch out to Oldham County and other places like that; so it does happen, but it takes a lot of pushing the ball uphill, pushing the rock uphill, I think. It doesn't come naturally to political institutions to do it.

John Y. Brown, III

I think the most successful areas over the next five to ten years will be those that are able to break down those barriers and think regionally because you can't contain everything in just one city. You have resources that you need to combine and utilize and I think that's where the most dynamic growth will be.

Craig Greenberg

Well, thank you, panelists, very much. Thank you all for joining us and have a good rest of the afternoon.

Transitioning from "Bricks and Mortar" to "Clicks and Mortar"

Moderator

Jim Gray, II, James N. Gray Company

Panelists

Larry Vignola, Fidelity Investments

Kristy Folkwein, Director, Information Technology Solutions, Ashland Inc.

Larry Jones, Professor, Department of Agriculture, University of Kentucky

Jim Gray

I'll introduce myself after our panelists introduce themselves and give each one of you all a good sound bite, starting with Larry.

Larry Vignola

Good afternoon. My name's Larry Vignola. I work with Fidelity Investments. My specific responsibilities are to oversee distribution for Fidelity's emerging corporate market which, essentially, sells retirement plans and services retirement plans to small and mid-size employers. When I talk about channels of distribution, it includes everything from face-to-face sales, telesales and, most recently, Internet sales, hence the reason why I'm here.

Kristy Folkwein

Hi. I'm Kristy Folkwein. I'm Director of Information Technology for Ashland Inc.; one of their divisions, the Distribution Company. Within the Distribution Company, I'm also in charge of e-commerce. We started our e-commerce efforts about two years ago, and that's probably why I'm here.

Larry Jones

My name is Larry Jones and I'm professor of Agricultural Economics at the University of Kentucky, and I believe my role today is to talk about the role of the Internet and e-commerce in agriculture.

Jim Gray

Thank you, panelists. My name is Jim Gray, and I'm from Lexington. My family's been in the construction business. This is our fortieth anniversary year and four years ago my brothers and my mother gave me the opportunity to put a little lifeboat into the New Economy and do what is conventionally now called corporate venture capital. What that translates into is the company, the enterprise, the corporation, will actually take some of its capital and invest it in other companies, and my charge was to find these opportunities. The startup companies, principally, and our first investments were a couple of companies in Kentucky and the next several have been companies both inside and outside Kentucky. As the winds of March came this year, we experienced the market really challenging whether or not investments in technology was really going to be the thing to continue with. I describe it as the geologic plates shifted and a lot of casualties occurred. Some of the companies that we invested in, frankly, were very nice successes, a couple of those, and the others have been what amounts to on the emergency ward in intensive care. And so we are experiencing some of the casualties of a highly speculative market, while, at the same time, we are looking at this going forward. OK. That's my story. Now, the first question I'd like to give to

the panelists; but I also want you all to be thinking about your questions because I want to play Montell, I guess, and I'm going to get this wireless mic right out here and in your face with your question. My first question, since this is Monday following the election, is what effect on Kentucky and the New Economy in Kentucky will a Bush/Gore coalition government bring us? (Laughter)

Larry Jones

That's such an easy question, I'm going to let my brother, Larry, handle it.

Jim Gray

I think this is a very meaningful question, actually, with these epoch-setting effects or events of the last week. Larry, in your business, I think that's in the significance and the breadth of Fidelity; tell us about what effect this has in your view and maybe what you're hearing from colleagues in your world.

Larry Vignola

Well, this is my opinion—and I'm going to state that right up front—and perhaps not the Fidelity point of view. We're really not convinced that the political outcome is going to have that significant an impact on the path that we're already taking as a business and the economic impact. When it comes to e-commerce and the economy in general, we're pretty comfortable that the path we're on is going to continue and, regardless of what the outcome is, the gridlock we've been experiencing for the last few years is going to continue. That's not necessarily an unhealthy thing for the economy or us.

Jim Gray

This question I'm going to present to Larry. We talked earlier this morning, and as he mentioned, he's at the University of Kentucky College of Agriculture. I was reading Larry a story in the last issue of the *Harvard Business Review*. There was an interview with a guy named Vinaud Koslaw who is a principal in the preeminent venture capital firm called Kliner Perkins in Silicon Valley, the guys that launched Intel and a couple of other very successful companies in the last 20 years. Anyhow, Koslaw says that, in terms of the development of technology and its impact on the world, we're just a couple of minutes past the big bang. In other words, it's just starting. He goes on to say, in this interview, that he looked back at the United States and at the turn of the century, seven in ten workers in this country were farming. By the 1950s and 1960s, that had changed to only three in ten. Seven in ten now were in an industrial environment. His speculation was that by the year 2030 that those seven will have been reduced to two and now between farming and industrial economy, only two in ten. I don't know if my ratios are exactly right, but something like that. Only 20 percent of our working population would be engaged in a meaningful way in an agricultural or an industrial economy. So, tell us what you think about that, one, and what you think in terms of the impact of the Internet and new technologies on our farming community in Kentucky.



Larry Jones

Well, first of all, the actual number is about 2 percent of the population are directly involved in farming today. So, it's only 2 in 100 rather than two in ten. And I would suggest to you that is the mark of an industrialized, advanced society. We don't need as many people to feed ourselves. Having said that, however, Jim, it seems to me that we also need more people to provide some of the services that we expect in the food system. I'm sure I'll go home tonight and my wife will have baked homemade bread, mashed potatoes, I'm sure she will have pounded the meat and cooked it all day, and will have baked a homemade apple pie. And, if you believe that, I have oceanfront property in Kansas I'd love to sell you today. My point is there aren't many of us, as consumers in this dynamic economy and world in which we live, that are going home tonight and bake something or make something from scratch, so we want more services. We want more foods that are prepared and pre-packaged to throw in the microwave and eat in five minutes. I think that's all a sign of an advanced economy. We don't need as many people to feed ourselves and I don't think that's anything to be ashamed of. I think that's something to be quite proud of. And a good part of that is due to the technological advancements we've seen in production agriculture. I'm not sure we want to get off into biotechnology, but biotech is one of the later technologies that means that fewer people can produce a tremendous amount of food to feed us and parts of the world.

Jim Gray

It's a big opportunity, in other words, maybe.

Larry Jones

Well, you know, we talk about biotech and it has a bit of a negative connotation because of everything we heard, from mad cow disease in Europe to the taco fiasco a few months ago. My spin on that is that all we're doing with biotechnology is hastening up the natural evolution that we used to do through breeding in a field or with an animal that often took years and now perhaps we can do it in weeks and months instead. So, I'm not sure we're really doing it that different. I'm not going to argue we don't need safeguards. We certainly do. But, on the Internet, we do have one benchmark study, if you will, that was done by the U.S. Department of Agriculture last year, 1999, and they showed one in three farmers now use the Internet in some capacity. And I don't think as small business people they're really using it that differently than other business firms. We don't know for sure. They're accessing information. They're using, of course, e-mail and all the things that other businesses use it for. We are finding that most of the e-commerce transactions involve the purchase of inputs. They're not selling that much yet via the Internet, but they're buying lots of inputs: fertilizers, chemicals and used machinery has become a big market. So that's some of the current trends we're seeing in terms of agriculture's use of the Internet.



Jim Gray

Good deal. Let's pause for just a second. I'd like to get a census of our audience a little bit. It will help our panelists. How many in the room are just private sector and public sector? Just show of hands. Private sector first. Public sector. OK. Good deal. Kristy, I've got a question for you. This same article that I was reading, Vinaud Koslaw said he predicted that broadband would be the equivalent in the knowledge economy to what oil and gas have been in the industrial economy. Coming from Ashland Inc., tell us about how Ashland is transforming itself in the knowledge economy.

Kristy Folkwein

Over the past couple of years, we've spent a lot of time, starting out with strategy. How do we take the company we have today and the value we bring to customers and what strategically should we be looking at as it relates to the e-world? We did this two years and then we identified different areas, both from our customers' side, the customers we serviced, as well as the supplier side, since being a distributor our supplier relationships are very important. On those two fronts, we looked at them and tried to find where we could add value with e-commerce. So, those are the pilot projects we took on two years ago. Through today, there's been a lot of learning. I think we as an organization are better positioned now. We know what B2B means because we've done it and we've experienced the issues that come with doing it. We also know web. You know, 24 /7, what does that really mean? It means that you have to have customer reps there that can support the e-channel, the phone channel, the walk-in channel and you have to do that seamlessly, so there's a lot more that comes with it than just the technology.

Jim Gray

Tony Sholar, I saw you earlier. I was talking with Tony, and Tony is, as many of you all know, the icon of the Kentucky Chamber of Commerce. He's been in the role of government liaison for a long time. Why don't you share with us, Tony, what you were saying earlier about the significance of this event today, how you felt good about it, and how you see where Kentucky is compared to where we were a couple of years ago?

Tony Sholar

You know how powerful this thing is? There's so much stuff. I'm privileged because of my association with the State Chamber. We're involved in a lot of things. We run the gamut from environmental policy, labor policy, to education, to health care, and all those things. And I have the privilege of seeing a multidimensional state of Kentucky in agricultural policy as well. But one thing about that probably as a business organization concerns us. My age gives me away, but in the 1970s there was a fellow named Alvin Toffler who wrote a book called *Future Shock*. Not a lot of people paid attention to it because the premise of it was that we would reach a point in our society where the evolution of the technology and the ability of the technology to replicate itself would exceed our culture's ability to adapt. I'm concerned that in Kentucky we've had a cultural stagnation relative to our educational expectations. Listen to folks like Ron Crouch with the University of Louisville Urban Studies Center about the percentage of our population that is not fulfilling their educational expectations. Mr. Martin, who just spoke to us, talked about 800,000 IT jobs in the year 2000 that will go unfilled. And if our Workforce Development Cabinet survey of Kentucky adults, even though I think there was some statistical significance within three to five points, is true, about four out of ten adults between the ages of 16 and 64 are marginally or functionally illiterate. That means that they can perform at the 8th grade level. Now, we have a very significant educational divide in this state. And the

concern we have is how do we sustain the economy that we have if we'll "dance with them what brung us," which tends to be agriculture, manufacturing, and natural resource extraction, and yet prepare for where the economy is going, which is information technology? Our workforce skills may take longer to accomplish the needs than we have time for relative to the rest of this globalization.

Jim Gray

So, any of our panelists, take a stab at that, the bricks-to-clicks transformation and all the tension that that generates within a traditional economy as we have here.

Kristy Folkwein

I guess I'll take a stab at it since no one's jumping at it. I'm actually in the IT world and we always have a challenge to find people within the IT area. In IT, in general, there are some misnomers. I think everybody has a perception that you have a lot of programmers behind a screen and they just sit down all day and write code. Well, that's not really reality. At Ashland we spent a lot of time looking in other areas of the company where they have certain types of skills that can add value within the IT area. We're bringing a lot of people from different areas, different backgrounds, into IT and providing the training to take them to the next levels. So far, it's working quite well and there's a lot of satisfaction, both for the employer as well as the employees.

Larry Vignola

Yes, I would just add that our experience at Fidelity has been very similar in that it really has to start from the top. Our Chairman on down has really made it clear that the use of technology and the Internet in particular are the way that we will do business, and, as a result, I think we're going out of our way to make technology available to people. We are slowly but surely practicing a little tough love for our own associates where we're taking away the paper and we're giving them one and only one choice to do business. That message from the top has really started to hit home with all of our associates that this is real, it's here, it's going to stay and we've got to adopt it and adopt it quickly.

Jim Gray

A lot of people would challenge where we have been and what amounts to a paper transaction environment. A lot of people would challenge that we really are gaining value or efficiency in that transition. How do you all characterize it within your own environments? I mean, Fidelity, you all have really chased that and so has, you mentioned, GE, and Jack Welch has made it a strategic imperative for the companies.



Larry Vignola

Well, for starters, and I hate to use our current ad pitch, but our new ads really end with "call us, click us, visit us." So I think in many instances, particularly when it comes to our interaction with our clients, we're not looking to take away a channel of communication, but rather trying to find ways of augmenting what we've done historically. When we are using technology, which is very often, we're trying to ensure that that experience, the customer experience, is as good as or better than they would have received through the other channels. So, particularly when it comes to client interaction, we're not necessarily doing away with the paper. We're trying to show that there is another way of doing it that may be better.

Bill Roberts

I'm with Lex-Tech, Lexington, Kentucky, and we pretty much live in these trenches between the big divide of the Coldstream Development Park and the Chamber of Commerce. We've been all over the country studying these things and trying to see if we could get it off the ground. A comment and observation I've always made and shared is that we don't have the horse industry in Lexington because the grass is blue. We have an infrastructure there to support it. We've got the veterinarians, the farriers, and the horse hospitals, everything necessary to support this. We need the infrastructure. It seems that the problem we continue to come across is when Kentucky dollars are available to purchase infrastructure, we send those dollars out of state. We send them to the big eight accounting firms. We feel like we're backwards and we need to bring in the top talent. But we end up bringing in boilerplate solutions from industrial northeastern cities that just aren't workable in the hinterlands of eastern Kentucky. So that's one of the reasons we had some legislation in Frankfort this past year that was trying to equalize the sales tax disadvantage that we were suffering in Kentucky trying to build these businesses in Lexington. That legislation was mysteriously vetoed. The question that I have is how can we work more closely with state government, city governments, and businesses that are already existing indigenous to Lexington and familiar with the culture of this area to grow this grassroots effort and build that infrastructure necessary to support these higher levels of technology?

Jim Gray

You guys want to take a stab? I think I know somebody who might actually help us with that if our panelists will allow it. I am walking up here to Alan Hause and Alan is predictably provocative, but let me tell you a little about him. He's going to go on Bill Goodman's tonight, *Kentucky Tonight*, on KET. He's one of the panelists and Alan is a Kentucky native. He worked in Silicon Valley for a company called Cyprus Semiconductor. He's an electrical engineer. He went to his boss a couple or three years ago and said he wanted to go home. His wife wanted to go home to Georgetown. He already had two jobs lined up in Lexington. The president of the company said, "Alan, you can go home to Lexington, but you're going to start up an outpost for us in Lexington. You can design chips as well in Lexington, Kentucky, as you can in Silicon Valley, so you go home and hire who you need to hire." What he's done since then is created an outpost, not only in Lexington, but also he's got engineers working in India and in Mississippi which he leads. But in Lexington, here in Kentucky more importantly, he has now about 30 and, by the end of the year, he will have 45 employees in his shop designing chips for Cyprus Semiconductor. He has importantly repatriated three Ph.D.s, people who were native Kentuckians who had left the state and wanted to come home. As Happy Chandler said, he never went anywhere in the world that he met a Kentuckian who wasn't on his way home. And, so, Alan has identified those people and brought them home. So, I think, Bill, Alan probably has pretty good on-the-ground response for you on that subject. How do you do it?

Alan Hause

First of all, a couple of comments. One is, from my point of view, the infrastructure that matters the most is education. I'm an electrical engineer and to really understand electrical engineering in a real kind of way, you have to understand calculus. To really understand calculus in a meaningful kind of way, you have to understand trigonometry and to understand trigonometry in a meaningful kind of way, all the way down you need to add. (Laughter) So, what I'm saying is that to fix most of the infrastructural problems relating to engineers anyway, you have to fix it 20 years earlier than anything that anybody is working on. You have no hope of turning a high school student who is not solid in math and science into a real engineer. It's just too late. So the thing that makes my industry go is brainpower. Although it was somewhat compelling because I have some kind of weird skills for Cyprus to setup an organization here, one of the things that really made it work is the University had changed some of the curriculum in the electrical engineering department and it became feasible to hire some engineers here.

So people are the key to making engineering and a lot of these information things go. It's nice to retrain and that's somewhat feasible for a lot of things, but the information technology business and the engineering business aren't simple and it's things that you have to pay in the long term to make work. There are strategic decisions and that's clearly what education is. Making the education work right is clearly the most important thing to make this business work right. My question for you is, engineering is totally male-dominated and it's particularly male-dominated in Kentucky. How do we fix that and what do we need to do to make that work better because we're not taking advantage of half of the brains in the world and certainly half of the brains in Kentucky are in women and, just culturally, it's a serious problem.

Kristy Folkwein

I can speak to it from the standpoint within Ohio. Several years ago in Dublin, which is where our Ashland Distribution Specialty Divisions are located, at their local high school, they have a career day for girls. The first year I was invited to attend representing the IT source of a future, I had three girls out of about 250 show up. They all went to the Fashion Merchandising and other areas like that. The second year I went I had a few more, but it's very difficult to get girls interested in the technology type fields. I know within the school systems within the Columbus area, there are two different schools I work with, just to work with the girls and help them realize that technology isn't exactly what they think it is. There's a lot of power in what you do. I have a daughter and I have her convinced she's going to MIT someday. So, again, you just have to keep at it and you have to work with these girls as a role model within the high schools and that's what we're doing and there are very few girls in IT in Ohio also.

Questions, Answers and Comments

Questioner

I guess this isn't a question so much as a comment to reassure those in the audience that we do have in place a program in Kentucky that is focused on children, girls, and minorities. With your help we can continue to work that program and get more of our students in that young age and not wait, as you said, until it's 20 years too late. That program is Student Technology Leadership. If your school does not have one, or if you want to be involved, I do want to be getting hold of you all to come and talk to children that are in our Kentucky schools and get them

involved because they have some of these skills. They have some of these opportunities. You have to help us make those happen. So, if anyone wants to talk to me about ESTLP, I'll be glad to talk to you and we do have a web site.

Questioner

Well, I guess I was picking up on this notion of 40 percent of the people in Kentucky are illiterate or functionally illiterate. Is the Internet a verbal environment? And, if it is a verbal environment, then we ought just not put up with that. I mean, I'm sure we can talk about technology. Then, if our market is Kentucky and we want to create a community in Kentucky and 40 percent of our people are functionally illiterate, why are we putting up with it?

Jim Gray

Well, let's see, there's a lot of folks in the government. I don't know if our panel is going to field it. Who? Ginny? Yes, that would be a wonderful question. I'm giving you plenty of time; I'm walking slowly over here. Now, you all know Ginny Fox is Executive Director of the Kentucky Educational Television System and every time we have a conversation, it is about the subject of outreach and education to these places in these populations.

Questioner

In fact, there are 800 - 900,000, about half of whom are literally illiterate and the others operate up to the 8th grade level. Bill Wilson over here works with me and we've worked on this for the last 15 years. We're redoing workplace essential skills that teaches math and language in the context of work, in the context of the jobs that people who operate at this level work and there's an online version of it. It's kind of like "click us, call us, or come in and see us" and these things are in the adult learning centers. We're coming online with a new GED. Let me give you some other statistics that frighten me more. We have handling the 632,000 children in this state nearly 40,000 teachers. Every one of them has a degree, did you know that? Some of them may be teaching out of field, but they have a degree, a college degree, an AB degree. I didn't even look up the higher ed statistics, but they're equal. Do you know how many people there are for those 900,000 people? There are 666 qualified teachers who are called adult educated to teach them, and nearly half of those do not possess a college degree. They are not qualified to teach adult ed. They have not been schooled in the pedagogy. They know nothing about distance learning. Ninety percent of them have GEDs. Many of them have an Associate Degree. We touch people on nearly every place on the arch of learning from graduate education back to kids. My concern is how we turn that culture around to care. There is not enough state money to train those adult educators. I need your businesses. We need your businesses. The Council on Public Higher Education is getting ready to put out a program and we'll be partnering with them in which we will be certifying adult educators. And the first two things will be how adults learn and what a win-win is. Doesn't every employer need all their employees to learn because aren't you teaching people all the time? And the second thing is we'll be using technology and distance learning technology and read that to mean computers, satellite, and television and video conferencing to teach adults. We need literally thousands of volunteers to become certified because I say it is a soft underbelly and they are not online. They love online once they get it, but it takes somebody to take them by the hand. It takes a friend. They don't just go to it naturally. They don't like to admit that they can't read. They're embarrassed. This is a great social embarrassment and so, these are people you have to handle very gently. And, so, Richard, we can't put up with it.

Questioner

Well, I mean, I was just talking Kentucky. We're trying to say we want to join the information age, we need to do all these things, and we need to do them at the highest level. It seems like we've got a problem if we want to have it in Kentucky.

Questioner

We do. We have to change our culture.

Jim Gray

Well, that's what Tony was talking a lot about and I see him shaking his head. It's about a culture change that permeates the entire system. And I will come right back, I promised these guys. Dr. Wilson. Emory Wilson, as you all know, is Dean of the College of Medicine at the University of Kentucky.

Questioner

As you know, Mark Twain once said that he wanted to die in Kentucky because things happened here 20 years later. Personally, I'd like to die in a faculty meeting because I think there are times in a faculty meeting when the distinction between life and death can go almost totally unnoticed. (Laughter) But getting back to the genesis of this group, although we have made great strides and progress in education at all levels, can we afford to educate our own

people in this process or do we need to import people to get us where we want to go? Because I think we're already about 10 years behind.

Jim Gray

I think, Emory, that was this repatriating strategy that Alan's talking about. Is that what you're suggesting? Anybody want to take a stab? What have you all done? Let's take a corporate environment, which can share our experiences with the public sector.

Kristy Folkwein

I guess I'll take this first. Early on, we did a strategy. After we did the strategy, we tried to find a company we could partner with, someone that had been through this and had made mistakes before. We would partner with them and, when we chose to partner with them, it wasn't to have that firm come and do it for us. It was to partner ourselves at all aspects to learn together. So, through this first pilot that we did, we put in place a process and a methodology. So, now we're about on our thirtieth project and we do them always the same. The business and the IT group and corporate communications and law and all the people within our corporate culture know how to do these projects now and we can do them much faster and much more efficiently. So bringing the experts in to teach us how to work in a different way was how we approached it. Now, we do these projects on our own or we'll bring in people if we're missing different types of resource needs that we have. But, again, it got us a head start in how to work and now we just consistently use that same approach.

Larry Vignola

We've had a similar experience. We at Fidelity are fortunate that we import some experts from our own Boston information technology team. But a year ago, we rolled out a new product where, while we did have some support from those folks, we essentially were able to find roughly 50 associates and also hire some new folks locally. We created the first 401K bought, sold, and delivered through the Internet, so we've had a very good experience in terms of being able to find professionals locally. And, very much like Kristy's experience, one of the things that it taught us is that we have to do things differently. It seemed like an unnatural act at first, but, essentially, putting business and technology people together has allowed us to be much more successful than we've ever been before and speed up time to market.

Kristy Folkwein

And the interesting part, too, is, if you came into a room and met 20 people within our e-commerce e-business group, I think you'd have a hard time recognizing which ones were IT and which ones were business. They're all melding together at this point.

Jim Gray

I want to come back to Emory's comments a little bit in a second and maybe lift up a little bit higher on the strategic level with you guys. But, before that, Steve Stevens is from the northern Kentucky Chamber and he has a comment and question.

Questioner

Thank you. You all have been at a very lofty level here with your dialogue and I appreciate that, but I would like to go down a little bit closer to grassroots level and maybe get some "how to's" and talk about a fear that I have. You know, we work with local business and existing industry primarily as do other Chambers of Commerce representatives and business organizations. One of the things that we obviously try to do is bring along those folks who have been involved in traditional operations into a new way of thinking. The very last question, I think, that the speaker that we had just previously answered was, how do we get these folks transitioned, and there's a distinction between new versus better. There is a new way of doing things and a better way. I don't know if the panelists share a fear that I have, but as we work with local business, I think there might be a divide being created between big business and small business in terms of their ability to adapt to the New Economy. The fact that the financial resources are not there, there is a great fear factor. They may only have one shot in making a leap in technology. Even though I realize it's a major undertaking for big business to overhaul and to go to new systems, but you might be able to afford a trial and error from time to time; whereas some of these smaller businesses, at least in their perception, can't afford to do that. So, I guess, I have this fear that they may find themselves falling farther and farther behind, while big business outpaces them and either gobbles them up or there's no chance for them to compete. I don't know if you share this same fear or if you have any suggestions for us as we try to bring these guys along and help them embrace the New Economy. But certainly we've got a couple of representatives from our good large corporate citizens here in northern Kentucky and I'd certainly like to hear it. Thank you.

Jim Gray

Yes. You all go ahead and then somebody who maybe has an on-the-ground experience, we'll invite your comments in response to that. I think it's a great question. In a business that is under 1,000 employees, which is what our company is, there's been a lot of anxiety and tension associated with this migration in our bricks-and-mortar business.

Kristy Folkwein

I guess I can take a stab at it first, coming from the other side—big business. I know the Internet and how we look at smaller competitors we have throughout the United States. A gentleman that runs a small company to distribute product is a competitor. Some of those with the Internet have a capability, again by joining consortiums or marketplaces, if there are larger providers where you can join those types of organizations where you can be a regional provider of a service or a product. I guess that's the first thing that comes through my mind.

Questioner

Yes, as a big business, one of the things that Chuck mentioned that I couldn't help but notice, was that bricks and mortar is an asset and, so, I think we do have a little advantage. By the same token, I think we have an obligation to provide some of the angel funding and some of those things to try to get these small firms off the ground and running. Typically, the initial investment for one of these firms is not that great and I do think that we need to look to the large business to provide some of that contribution and support.

Questioner

My question is probably off what Steve had mentioned. We deal with a large company and they set standards for e-commerce with them. We're a supplier to them. My question relates to what Steve is mentioning. What do you do with your suppliers and your business partners with regard to enhancing and promoting that technology divide that small business is concerned with?

Larry Vignola

I can't speak to our relationship with our suppliers, so much as I can with our clients. We have several different platforms that we try to make available. One is this product we rolled out last year—e-401K, which as the name implies is truly an Internet-based product. It's not for everybody. One of the things it has allowed to do, though, is provide a very competitive product to a small subset of the economy that just can't afford all the bells and whistles. But, we haven't gotten away from all of the other products as well, and so we are trying to provide choice. What are they comfortable with? There are different price points to each of those and we leave it up to the client.

Kristy Folkwein

We do, as I said earlier. Our suppliers to us are very important and we do have a lot of partnership programs with them. We have different types of transactions we do with a B2B environment. We want them to be connected. There's more efficiency in that and what we're doing is we end up partnering with our suppliers and a couple of different transaction sets we've automated. We did that in partnerships with our suppliers. We sat down with them and looked at the supply chain from their process all the way through our process to see where the benefits for both companies were. And that's how we approached it as more of a partnership than design.

Questioner

Do you have any specifics as to what you targeted at first and worked up the ladder, or was it just whatever you wanted to do?

Kristy Folkwein

What we targeted at first with suppliers is within our industry. It's a type of rebate between our suppliers and ourselves. So if we go out to a customer, we have to get a rebate in order to sell that product. We have to go back to the supplier on an individual customer-by-customer basis. That's something that within our industry has been a very difficult process to monitor. There are a lot of people involved, so that was the first target for our suppliers and ourselves. We've put that in a web system now, where we enter the rebate, they approve it online, and we have no reconciliation. So there's a lot of value to both sides with the people and less people required to do the task, less mistakes and those types of things. We decided, just based on an ORI, a very manual, complex task.

Larry Jones

If I may, I'll put an agricultural twist on this a bit. We have 15,000 large, full-time farmers in this state. We have 65,000 small, part-time ones. With the development of supply chains, as it's called in the industry, where are the 65,000 small ones going to sell their products? And, I would suggest to you that the Internet has the potential to perhaps level that playing field for those small firms that may find themselves foreclosed out of markets and I'm not sure agriculture is that unique vis-à-vis other small firms in other industries.

Jim Gray

Brian Daly thinks that he may have some data that can help us. Brian is now the Director of the McConnell Technology Training Center in Louisville and was formerly with the Kentucky Science and Technology Center.

Questioner

I have a couple of things just from bouncing around. We call it the guerrilla warfare of dealing with the digital divide. For those of you who aren't familiar with what the Kentucky Community and Technical College system is doing with their Cisco and their Nortel and their Microsoft Certified Engineer programs, talking about building infrastructure and people who know something, that's what they do. The Kentucky Institute is a new program instituted just recently by the National Center for Family Literacy on dealing with these adult education issues that we've been talking about. One of the programs that we started at the McConnell Technology and Training Center is the Outreach Computer Resources Program, which is to get computers to families who don't have computers and to businesses that don't have computers at an affordable cost. Usually, with scholarships, it's free. E-commerce handholding is something that's being done by a variety of companies, but it's something the McConnell Center does in particular. So, there are lots of things available, and if you haven't had a chance to check them out, I strongly suggest you might look at those.

Jim Gray

Betty Regan is Chairman of Morehead's Information System Department and she has some thoughts to share with us.

Questioner

I wanted to comment on that education issue because I've been at Morehead. This is my third year there, and I've been on the industry side and the academic side my whole career, so I have both sides of the picture. We're building the Information Systems Department there, expanding it, and we've done a lot in the last couple of years. We've seen our enrollments double with both men and women, but I think there's a need to do some things differently if we're really serious about growing and addressing the technology education issues in Kentucky because there are just so many things. We can't get faculty fast enough. I have three openings in my department right now. We're competing. The salaries are incredible that we're competing against. I signed up five people last week who were coming back and wanted to do a Bachelors in Information Technology as a second career. I think the opportunities are there. I think the students are there. It's our ability to be able to do some things differently, to be able to meet those needs, if we're really serious in Kentucky about taking a leadership in technology. I have been at three or four different economic conferences or meetings where we've talked about economic development in eastern Kentucky. Not one of the speakers talked about technology and the potential for technology for economic development. Yes, it was a real disappointment to me. So, I think there are a lot of places where our last speaker suggested we need to find new ways of doing things and I think we need to do it quickly and move quickly. I don't know if our panel has a response to that.

Jim Gray

We're going to take one more question, OK. I'm sorry. Jim is with the Department for Adult Education and I think his views could be really valuable considering the theme today does circle us right back to education. It does seem like wherever we go in the state, any conversation, it brings us right back to there, Jim.

Questioner

Thanks, Jim. I've known Jim for a long time. We both go back in the economic development field for years. Virginia, you're right on track. We've got a long ways to go. You threw out the figure of 800-900,000. We use the figure of a million people in Kentucky that are operating at the two lowest literacy levels. Do your math. The unemployment rate in Kentucky is about 5 percent, maybe less than that, of that one million people. If you take away that 5 percent, that means that the majority of them are in the workplace already, and, if you think about that, you all need to be commended on the KET series, *The Workplace Essential Skills* series. I'm in the Workforce Development Cabinet. I'm also in the Workplace Essential Skills branch, which promotes training in business and industry that deals with those levels. Online KET programs on the Internet, that's where we're moving. We're using

computer software that's interactive for strictly those basic skills. I just came from a Council of Postsecondary Education meeting in Morehead, Kentucky, a few minutes ago. The Council just approved our action plan for the 20-year vision for adult education. A year and a half ago, the Governor decided to take a hard look at adult education in Kentucky. Things are not exactly the way they should be. They outlined a plan. We're in the Workforce Development Cabinet, but they also put us jointly with the Council on Postsecondary Education for visioning. They approved that plan. There are a lot of things in there that look at distance learning. We served 50,000 people in Kentucky this year. There are a million people out there that need to be served. We've got to do something different. One of those components of that plan includes community assessment. I was in a community recently within the last three weeks in east Kentucky that has a new facility coming into that community. They felt like they were going to get all those jobs. When it comes down to it, their people would not be able to qualify for those jobs. Fifty-one percent of that community's population were at those two literacy levels. There's no way they'll get those jobs. They'll go to surrounding counties to pull those people in. So, it has to be driven locally by the community also.

Jim Gray

I've just got a real quick question that layers on that. How do we compare with those numbers? Where are we in the lineup with our million that you're describing vis-à-vis other states? I mean, 48th, 47th, 45th? Ginny, you got any barometers on that?

Questioner

I saw a comparison that's kind of more telling, and this is maybe five years old, from the *Herald*. There's like one Ph.D. for every 16 miles in certain parts of our state. There are 222 per square mile in New Jersey and Manhattan. This is several years old. You know what I mean. We used to look at the low end or the high end.

Questioner

Serving those individuals, though, we certainly count 5 percent of that population. You know we need to jump ahead of everybody else.

Jim Gray

I don't know how we compare with Florida, but I can tell you I happen to have been in Palm Beach County, Florida, last week, and we do have better polling machines in Kentucky. (Laughter) I can tell you that. I was there and I saw those polling booths.

Questioner

It's not the states that we're competing against. It's countries.

Questioner

Yes.

Questioner

I don't need a microphone. So, every year I go to India, at least once a year because I run a software-engineering group. It's more happening in Bangalore than it is in Lexington by a lot. There are more players there. The education is better. The people are better trained. There are more engineers and that's a sad, sad situation to be in.

Jim Gray

And you also, though, have a higher ratio of undereducated there as well. Then the dynamic is similar. Is that what you're saying?

Questioner

Right.

Jim Gray

Right. But they're overcoming it through pushing the top end up?

Questioner

Right.

Questioner

It's an important distinction, I think. That's why I gave you the number of Ph.D.s per square mile. You can attack it at either end. But attack it you must, the top and bottom. You can't forget the top.

Jim Gray

OK. You all, we are past our deadline, but thank you all for being here and let's have a thank you for our panelists. (Applause) Thanks so much.



Linda Waggener, Kentucky Long-Term Policy Research Center Board member, chats with conference attendees.

Educating New Economy Citizens

Moderator

Representative Jon Draud

Panelists

Vicki Fields, District Technical Coordinator, Kenton County Schools

Craig True, State Board of Education

William Wilson, Deputy Executive Director for Education and Outreach, KET

Myk Garn, Chief Academic Officer for the Kentucky Virtual University

Jon Draud

Make sure you're in the place that you want to be. It's called "Educating New Economy Citizens." Apparently, I wasn't here for the last session, but from what I heard, a lot of discussion led back to this particular topic: education. My name is Jon Draud and I'll be the moderator for this distinguished panel today. I'm a state legislator in our Commonwealth of Kentucky, State Representative from a district here in northern Kentucky, an Associate Professor at Northern Kentucky University, and I used to be a school superintendent. Of course, one of my main interests is this whole area of education and it made me think. I had an opportunity to hear the first session with Chuck Martin and it brought to my attention again this issue of educational haves and have-nots. It seems to me that we may be having even a more difficult problem as all this technology develops to the degree that Chuck described it a little while ago. I did want to mention a couple of statistical issues in Kentucky that are very important for all of us to be aware of and, certainly, if technology can help with that, I know that all of us are interested in that being accomplished.

One of the things we face in Kentucky is that about one third of our citizens in this state are functionally illiterate. That means they work at the fifth grade level and below. Whenever I hear that, I am just astounded by that. We also have about 40 percent of the people in our adult working population who cannot read at the appropriate level in order to be functional in their job and do the kind of things that need to be done. Keeping in mind that we have probably one of the most progressive elementary/secondary education programs in the country with the Kentucky Education Reform Act, which was enacted 10 years ago, we still face these difficult problems.

We've certainly received a lot of national attention with our higher ed reform, and, of course, we have a big challenge in that area trying to get individuals to go to higher education and to actually complete higher education. So I'm anxious to hear what our guests have to say today because these people are outstanding in their fields and experts and what I want to do is try to learn some things from this experience.

The members of our panel today: to my immediate left is Craig True, who will be representing the business sector and also as a member of the State Board of Education. William Wilson is Deputy Executive Director of Kentucky Educational Television. He will be representing the public media. Myk Garn is with the Virtual University and will be helping us to understand its role in higher ed. And then Vicki Fields is one of our representatives here in northern Kentucky. She works with the Kenton County Public School District as one of the consultants for technology. I'm going to ask each of them to give you a brief overview of their backgrounds so you know where they're coming from and any general statement that they want to make about this issue. Then I have some prescribed questions that I've developed that I'd like to ask each of the panel members and then we'll leave about 15 minutes at the end for you to ask questions of the panel members. So that's the format that we're going to follow and we'll start with Craig.



Representative Jon Draud

Craig True

Thank you, Jon. My name is Craig True. I'm a native of northern Kentucky. I graduated from Northern Kentucky University, but that was 25 years ago when they called it Northern Kentucky State College. Since that time, I've

worked with PriceWaterhouseCoopers for 25 years, so I've had a chance to see a lot of changes in technology in the New Economy in those 25 years. About a year and a half ago, I was asked to move and head up our practice in Washington, D.C. that heads up the mergers and acquisitions group for PriceWaterhouseCoopers, where we give advice and counsel to those companies wishing to merge or acquire or be acquired by other companies. I also served, as Jon mentioned, for the last 10 years as a member of the State Board of Education in Kentucky, where we set policy for the education activities of the public schools. So I get a chance to see this from really two perspectives. The first is that of our clients as they work to acquire or merge with other entities and how technology in the New Economy affects them. Then secondly, we in Kentucky are trying to educate our children so that they can compete and really win in this New Economy. I, myself, was dragged kicking and screaming into the New Economy but I'm here, and I can tell you from my experience that this is a speed, intelligence, and information economy. Companies that want to acquire other companies can't wait a week or a week and a half for somebody to read a hard document in terms of the merger and acquisition agreement or the negotiations that they're going through. These things are done quickly. They need speed. They need quickness, and they need people who can respond to that quickly. People who cannot respond quickly in the mergers and acquisitions field just aren't players in that field. I'm looking forward to being on this panel, too, and learning from the other distinguished guests. With that, I'll let go of this.

Bill Wilson

My name is Bill Wilson. I'm Deputy Executive Director for Education and Outreach at the Kentucky Educational Television network. My background is that of a former teacher, former assistant principal, and then I've spent some time in the private sector as well. I have a deep and abiding interest in technology as it relates to education, but, primarily, I am dealing with it from the standpoint of the schools and the educational side. One of the things that I've noted is that the new-economy citizen is a "SMART" person. That's not only a word, it's an acronym in the sense that they are able to (1) "S"—select. In the old days, you took what you were taught. The new learner of today or tomorrow selects what they want and they do it when they want it. The "M"—the map—mapping is part of it. There's an old concept that's now taking new fruition called cognitive mapping. What that means is that people can design their own learning activities and now we throw technology into that and we note that they can design their own technological elements as they progress through the learning chain. And then the "A" means to act. You have a plan but you've got to act on it, and then you have to "R" review that plan, and you have to review it quite frequently. And then you do everything you can to "T" target as best you can. In my mind's eye, the new-economy citizen is like a heat-seeking missile. It will change direction, but it will always keep going forward, and everything we do in technology has to be designed to take advantage of that.

Myk Garn

I'm the Chief Academic Officer for the Kentucky Virtual University. My background is in photography. I was a community photographer instructor and commercial photographer for about 10 years and got hooked into the corporate side of things—doing corporate training via satellite for Eastman Kodak Company. Most recently, I was in Georgia for three years as a director of Distance Education Policies and Planning for the university system of Georgia. I came to Kentucky about a year and a half ago to be part of the startup of the Kentucky Virtual University. It's been pretty exciting. We've gone from about 250 enrollments our first term to this fall we have a little over 3,100 enrollments, which is a good success story and that's a success story because of all of the institutions that are working together on this. One example of this, in Chuck Martin's presentation, you saw the Morehead online application. Through the partnership of all of the public and private institutions in the state, you can go to the Kentucky Virtual University and fill out an admissions form for all of the institutions in the state—one form. It's pretty powerful work that we're doing here, but we have a long way to go.

We did a survey this spring that showed out of the roughly 3.5 million citizens in Kentucky who could go to college, about 1.4 (million) said they had enough education, but 1.6 million said they needed more and of that, 1.1 (million) said they wanted it over the Internet. That's a pretty good number. If you take all of the students enrolled in higher education in Kentucky, subtract that out, cut that number in half, and cut that in half again, you still have a number larger than all the students we have in higher education. There's a huge potential market out there. We see as our potential market people like the 24-year-old student who went through the Cisco academy and got a great job, but didn't have time to go to school and now they realize they need some more education to move up in the company, or some retooling. Or the 28-year-old mother who wants to complete that degree she started before she had three kids and needs to do that on their schedule and study at 10:00 at night on a Sunday. And the 42-year-old worker that wants to shift careers, but can't leave that job they're in now because they have a family to support. Or a 35-year-old high school dropout that wants to get the GED so that they can get back in line and start taking instruction. All the way down to 20-year-old traditional students that want to try to get through their degree program faster or find themselves out of sequence for the courses they are trying to take and that course is available from another institution. So these are a number of the different customers that KYVU sees and looks forward to serving.

Vicki Fields

My name is Vicki Fields and I'm the District Technology Coordinator at Kenton County Schools. I came into education different than other people at this table in that I came from private industry. I worked for Nielsen Marketing Research and worked with data and, if you've ever worked with numbers for any long term at all, technology is the only way to be able to churn all of that information out and get reports. That was my job, to make sure all those reports went to local businesses here in the Greater Cincinnati Area. Technology to me was a way and a means to provide what we needed to do as a service as a company. As I became a mother, I became interested in what I perceived to be a schedule for education. Boy, was that a mistake, and as I applied to work in education, I found that the same ethics and hours that I spent in the private industry applied here as well. So I took over the technology there approximately 15 years ago and have been in that district all this time. The most important thing that I can tell you that we do in our field is that we're preparing your future workers for this New Economy and these children, as you talk to them, don't think of technology as the word "technology." You know they were born with this hanging on the side of their crib. So we're the ones that refer to it as technology. They refer to it as a way of life, and I think the most important thing that we can do in the K-12 arena is to be sure that when our children leave to go on to these jobs or to other postsecondary opportunities, that learning is a lifelong thing. Learning does not stop when you graduate from high school and, if you look at what roles and jobs children will have in the future and in their complete future, they're going to change jobs many, many times, and they're going to have to reconstruct their knowledge. They're going to have to constantly research and find out what is important to know at that particular moment. So again, the most important thing we do at K-12 is to be sure that children know how to acquire knowledge, how to build their own knowledge and know that they will be lifelong learners.

Jon Draud

Thank you, members of the panel. One specific question I would like to ask first I'd like to ask each of you all to respond to. This idea of the New Economy: define that as it relates to your particular field, for example, business and higher ed, the public media, as well as the elementary/secondary schools. So, if you would, I'd like for you to try to define for us what the New Economy means in your particular field.

Craig True

Thanks, Jon. As I mentioned previously, I think what we'll find is that the New Economy is going to have a lot of similarities in every field that we talk about, but it's information. It's technology that's used, from a business perspective, to gain an economic advantage, to gain a competitive advantage over your competition, so that you can provide the product or you can provide the service faster, more exhaustively, and more accurately than your competition can. The result is your shareholder value goes up, so your shareholders are happy and you keep your job so you're happy. And you can see that, as I mentioned before, in a number of areas in terms of mergers and acquisitions where people need merger agreements reviewed quickly, they need to move quickly to make the deal because there's lots of competition for the deal. But even as they look at these target companies that they want to acquire, one of the key things they're looking at is—and it can be the fanciest "dot com" in the world or it can be the widget manufacturer down the road—how they are set up for the future, in the next four to five years.

How are they going to buy products or sell products to their customers? And I'm not talking about selling dolls or CDs over the Internet. I'm talking about chemicals companies looking for a way to procure raw materials quickly and efficiently so that they can lower their costs, still have quality, and compete effectively. So my clients look to those things: what plans do these people have in the next four to five years to compete effectively in this New Economy because if we don't think they can do it, then they're not worth the money they're asking for and we're not buying it. So from a business perspective, that's how I see this New Economy playing out and the critical capability of those who can and will prosper. Those who can't will be gone.

William Wilson

The one word I'd like to use in terms of defining the New Economy according to my business is the word "digital" because it will allow us to do things in education that we've never been able to before. We've generally been provided education in a linear fashion and now we understand learners have different needs, desires, and times in which they want to learn. Therefore, digitalization will allow us the opportunity to do that. But our attempt is to simply try to serve the learners wherever they are. Dr. David Thornberg, who's a futurist, said that learning takes place at one of three places. It takes place around campfires, around watering holes, and in caves, and no matter how you put it, it takes place in those three areas. Now, campfire is anything that illuminates. It can be an exhibit. It can be a television program, or it can be a computer program, but anything that excites people is what we would classify as a campfire. There are many ways to do that and what we're trying to do is to broaden the ways that that can be taking place.

We produce CD-ROMS, we have television programs, we're on the Internet, and we provide instruction on the Internet. Then, once people gather that information in one way, they've got to go around to a watering hole, and

what that simply means is people want to have an opportunity to check things out. They want to have a chance to interact with other people on it and that means if you are talking electronically, then you're talking about the Internet. If you're talking about college, you're talking about the Grill. But, either way, you need a place where people can connect and exchange ideas related to that concept. And then, people learn in caves. That is, they take the information that they've received that they've been stimulated to understand and they try to internalize it and try to make it applicable to something in their lives. What we're trying to do in education is to do this in an expeditious process. It's been said the world is moving exponentially, while we as educators are moving incrementally. We need to catch up pretty quickly. Business is telling us what their demands are in terms of needs and we are trying to struggle to do that. But we cannot look a businessperson in the eye and say, you've got a need and we'll provide for that need for you two years down the line. That, ladies and gentlemen, will simply not work. So what we're attempting to do with the New Economy is to provide things in a very fast-paced, very quick manner, in short segments. We use the term at KET of chunking. We want to give it to people when they want it and in whatever manner they want it and wherever they want to learn.

Myk Garn

We tend to think about what we're doing with the Virtual University in terms of helping the institutions, the providers that we work with, prepare in the New Economy to have the skills that Bill was talking about and those capacities. I tend to think of it in terms of my kind of three K's of virtual education: capability, quality and capacity. (Laughter) OK. Thank you. I appreciate that.

Jon Draud

I was just getting ready to brag on this panel until that happened.

Myk Garn

Yes. That's how they let me in. Capability at the institutional level is being able to actually utilize technologies and the Virtual University is very involved in that. We provide a number of the infrastructure elements as well as working with some of the policy areas to do that: things like an online catalogue, the virtual library, the help desk, and all of those other support services that go with this. With quality, working with faculty and institutions, this is a new environment that we're in and the quality of what we're doing, interestingly, was never suspect when it was done on site. All of a sudden now that it's online people have a lot of questions, but well-asked and profound questions. And we're working very hard to address those. It's interesting enough that all of a sudden we're turning around and wondering how that's done on campus. I think the ultimate end of this will be a higher level of quality in both areas. The real challenge for us is in capacity. As we look at that 60-80,000 new students that are supposed to come into our system by 2020, the number of new faculty that it's going to take to teach those new students is somewhere around 1,700 or 1,800 new faculty. One thing we're learning right now about technology is that it doesn't necessarily scale in that way; that ratio of faculty to students doesn't necessarily change. And we need to look at models that might, and I say might, allow us to do that, but might allow us to use different types of faculty. The question was brought up in the other session about adult education. If we're going to move from the 50,000 that we're teaching now to 100,000 to 300,000, that's doubling and six times the number of teachers there that we need. Technology can help with that. It can provide better resources, but that's one of our challenges, to fit what we have with technology to the capacity that we have to use it.

Vicki Fields

When I define how the New Economy relates to the field of K-12, I think of delivery of instruction. As children are growing, they expect to be able to receive their instruction any time of the day, anywhere, any place, whether those children are in public schools, home schools, or in a community center. They look toward the Kentucky Virtual Library where they can use those resources for online knowledge building as well as the virtual high school, and, even as you look out across the state, some of the other school districts are beginning to deliver online services to their schools. So I look at the New Economy as it relates to our field as the way instruction will be delivered to our students.

Jon Draud

OK. Thank you. The next question I want to direct specifically toward the topic of our discussion today related to the educational system. How can the educational system provide meaningful learning experiences to prepare citizens for the New Economy?

Craig True

As you know, the theme that we've been trying to use in Kentucky for the last 10 years is, what can students do with what they know? And that's the key benchmark. In the New Economy, as employers look for employees, they're

going to look for folks that can do things with what they know, not just be shown how to do things. And, I think, as was mentioned previously, it's so important for the school systems to be able to work into the curriculum of students every day the use of technology, to go find new information and they can find it globally now. They can go find information anywhere, and take that information and do something with it. We should provide something that shows that they know more, that illustrates to others to accept their point of view. Those are the types of things that I think we need to be doing educationally to prepare our students for the New Economy. We've come a long way. Back in 1993 in the public schools, I think there was an average of one computer for every 193 children. In Kentucky's poorest schools and in Kentucky's more affluent schools, the ratio now is six children for every one computer. The real hump is where do we get enough money to make it one computer for every kid. I'm working on that.

William Wilson

The system can do a lot to provide more meaningful experiences for young people. First of all, it has to be quick. It has to be relevant. It has to be, in my mind's eye, interactive. The idea of passive receiving of instruction, I think, is long gone. We have to engage our learners and get young people involved. If not, they'll probably tear up our classrooms. The fact of it is they've got to be involved. In doing this, with the new technologies, we can address one of the age-old questions. In a classroom a teacher says she can't deal with 30 people or 25 people, but with technology, you can assess, you can do a whole lot of things with prescriptions. You can do instruction and evaluation and you can have all these people operating at different levels at different times. And to that end, the teacher truly does become a facilitator in the classroom as a guiding light, as opposed to a fountain of all knowledge, as such. So the bottom line is, I think, we can provide meaningful instruction by simply doing some very simple things. But the one thing I want to key on is doing whatever we do in an expeditious manner, especially if they're interested in getting out and getting jobs, and young people are now being afforded great opportunities. It is very difficult for them to sit in a classroom when their friends are out making \$100,000 just because they know how to maneuver a few keys around, so we've got to make that instruction relevant and we've got to do it as quickly as we possibly can.

Myk Garn

I think one of the most interesting things about technology that it has given us, especially learning over the Internet where Virtual University is focused, is the asynchronism of it. We're no longer bound as we thought of distance education as sending education out where we could overcome geographic barriers, but it's time barriers that really have the real promise. A good example of that in terms of making this meaningful: we had a group of 911 operators that came in and said they had a real problem. They had lots of turnover and needed a training program. They thought this would be a good way to do it, and one of the real challenges was that they had a number of adjunct part-time 911 operators and they didn't have a budget to train those folks at all. In talking with them, it became really obvious they had computers, that's what they worked on, and, in fact, they could do the training right on the work site with those people when they were off, when they were on breaks, at different times. The training is there when you need it and you schedule it around your life. It just makes all the difference in the world. The real challenge for us is, as someone earlier said, we're two minutes after the big bang. We are right at the beginning of this learning curve of how we teach differently when time is not part of our teaching structure, when things can go on asynchronously when a discussion takes place over the course of a week or more. Right now we're converting what we're doing in the classroom to teaching online, and that's an OK place to start. But eventually we're going to get to, and I think this is the additional promise of this, the ability to really mass customize which is one of the older business terms. Eventually we will be able to allow students to craft their own education and to learn in their own way under the guidance of skilled tutors, mentors, and faculty and not necessarily tie them to that learning by lecture, by rote, by testing that we know how to do now. The challenge is learning how to do that and moving towards that direction in that model.

Vicki Fields

And we refer to that as 24/7, right? When we talk about the experiences or the educational system providing meaningful learning experiences, we think about the things that kids can do in the classroom that will pertain to their future as an adult, and we look at students doing things like simulations. Do you realize that 1.5 million children voted online during the elections last week? They were so concerned about the results and what impact it might be on the election that they would not release those, and I don't think they've released them yet actually. (Laughter) Good. We also talked about students doing dissection, you know some people have a real problem with children and going through that process, but now those things can happen online again 24/7. It doesn't make any difference what time of the day. Some children learn better in the morning; some children learn better in the afternoon. We have to be able to adjust for that flexibility. You as employers expect your personnel to be able to do that and it's part of their personality and how they work best and we want to try to accommodate that in their learning experiences.

We also have to look at giving kids the opportunity for solving real problems and giving them data sets where they can get on the Internet and solve problems through any courses that are available. So those kids can experience what a real issue is and how to solve it, not just something out of the textbook or on the library shelf, but finding data and comparing it all across the country, such as being able to share with children from Wisconsin about water samples. When has that experience ever been able to help them in the past? Because as an employee, you would expect them to find information from other companies, and isn't that what all the New Economy and the global economy is about? My husband recently told me he would never use technology 10 years ago; he was just not going to have any part of it. He's a small business owner here in northern Kentucky. I noticed that now he orders his supplies from Denver, Colorado, and they are shipped from Mississippi and every Thursday as I go by his office building, I see that tractor trailer there unloading things. That was the person who told me that they would never, ever use technology. It isn't about technology; it's again, as the gentleman mentioned before, about profit and loss and that margin.

Jon Draud

Thank you very much. I knew we had an outstanding group of individuals on our panel, I just didn't realize how outstanding. You all are very fortunate to be here today for this session. The third question I'd like to ask deals with the kind of skills that our youngsters need in the New Economy as contrasted with the skills that have been required in the past. In other words, what type of skills do our students need in this New Economy vis-à-vis the old economy?

Craig True

I guess the first thing I'd say, Jon, is it's not geographic anymore. We used to think of people going to work in a certain geography and this will convert things to global. People don't care where you are. People don't care where I am. There's a cell phone. There's a computer. There's a fax machine. And people expect me to be available. The



Craig True

days of me saying I'll be out of town for a week and I won't be accessible just don't exist. Employers are going to look for people who understand technology and can master it every day of their lives. They will want people who have been trained to solve complex business problems to look at what issues there are and to come up with recommendations on how to deal with those issues. They'll not have to move around the globe, but they'll have to be able and ready to work anywhere, anytime in a global economy because people can get to you from anyplace on the globe and if you've got expertise, they need that expertise. They need people who can sell their ideas, be resourceful, be creative, and not wait to be told what to do. They need folks who pay for themselves. You don't look at paying a person's salary in exchange for work. You look at paying a person a salary or give them their stock options based on what value they brought to the organization, how they cut costs. How did they expand markets, or think about new ways to sell our existing products in the new areas or geography? So using technology to find those answers are the

types of things that I think are different in this New Economy than what we've been used to in the past.

William Wilson

As it relates to skills, I've been told that 85 percent of the people in the workforce lose their jobs, but they do so not because they don't have what we call basic skills but because they can't get along with one another. They can't seemingly fit into a teamwork environment. So, obviously, when we think of critical skills necessary for the future, we're talking about teamwork skills, collaborative skills. Of course, our schools are beginning to set up to encourage collaborative learning, but if you have a problem in school, and you go to your next door neighbor and ask him for help, that's called cheating. In the work world, that's called collaboration. So we train people differently a little bit. Now another skill that was mentioned this morning I can personally testify to is research skills. My son was not doing too well in advanced physics and I couldn't help him, and so he went to one of the television teachers at KET and he put him in contact with a chat room. So he started being tutored by a University of Alabama professor, and he raised his grade not to an A but he got a B out of it and I was quite pleased with that. But he was receiving tutoring from the University of Alabama. And then he found out that he could connect with some other physics students around and I mean he was really going gangbusters, but research skills are most critical. One other skill that I think is very, very important, and it sort of slides by people because we don't pay too much attention to it, is good keyboarding skills. A lot of times I look sort of silly at a keyboard or at a computer because I can't type fast enough. I'm thinking, but I can't type. Keyboarding skills are very, very critical during this day. So, you have the critical thinking skills, the attitudinal skills, the research skills, and then you have good keyboarding skills.

Myk Garn

I guess I want to focus on a sort of subset of those workers and the New Economy, the ones that I work with most frequently, and those are the faculty, the teachers that we have in our education system now. The different school systems and higher education systems are struggling mightily to figure out how to help faculty move from pretty much a pre-industrial model. It's a guild craftsmanship model, where we create each student one mind at a time, and which we're pretty good at, and pretty darn proud of. But we need to change that into a different kind of process, one that we view with a lot of suspicion. Moving to an assembly process could be a lot more efficient, but could it be as effective? And we don't know. But those are challenges that we have, so I look at the skills that we need. We need to think of that workforce, and working with them, help us understand. I mean us from the standpoint of these external agencies, like the Virtual University, with its whole new model of doing things out there. We need to help faculty understand that, work with it and begin to research it and learn how to leverage those advantages in the technology, in the pedagogy that we can use technology to teach with, and make a more efficient, effective system. There are a lot of challenges to that and those challenge a lot of the basic assumptions that we have about how we approach higher education and reward it.

Vicki Fields

Different skills that I see in students today over prior years are because they've become explorers, they are investigators. They have to be able to synthesize what they read and when they find and research that information, they have to be able to give a report. They have to be able to take all of that data and come up with something that is factual based. Those are skills that are easier for the students to learn than I think it is for the teachers to teach because they come from an older preset way of teaching. So we're not only changing the skills of students, but we're also trying to change the skills of our teachers as well. One of the things that we've not discussed here, and I don't know if this is exactly where we need to put it, but I think it is one of the skills that we really need to work with, and that's leadership skills. As we look at leaders for our future, no matter whether that leader is a leader of the brownie troop or if that leader is the CEO of a company, those leadership skills are very important. You can do that with children.

In leadership academies, they share information, children visit businesses, and they see how technology works. There's a program throughout Kentucky called the Student Technology Leadership Program. It's very important that students work with leadership. They learn how to train not only their peers, but they work with training and dealing with adults. One of the problems we see in the field of IT is that they're a little lacking on personality skills, we'll say. And one of the things that we do with our Student Technology Leadership Program is work with those students on how to properly treat people. How do you do customer service? There will always be personal help and customer service around and those leadership skills are very important and one of the skills we need to be working on with our children.

Jon Draud

Another issue I would like for each of you to respond to is the question of what role do you see the schools actually playing in educating citizens for the New Economy? Is that role changing where there will be more partnerships? Or, from your point of view of each of the areas that you represent, what role do you see the schools playing in educating citizens for the New Economy?

Craig True

Speaking from maybe a business perspective, businesses need to do what they have been doing, but they need to be doing more of it and that's partnering with the school systems to help the school systems provide the type of what I'll call raw materials. A lot of people don't like for me to refer to graduates from college or high school as a raw material, but for a business the raw materials that you buy from the ground and the oil and all that stuff, that'll be there, we know what quality that is. The key raw materials to gain competitive advantage are the quick minds and the creative thinking that you get from your employee base. And if you don't have that, you won't have competitive advantage. So the first thing I think is partnering. The second thing is for businesses to continue to realize they have to make continuing investments in their people's education. You can't hire somebody and expect him or her to do the job for 30 years because 30 years from now that job won't be there. So continue to invest in the continuing education of the people. And, lastly, from a business perspective, I think, too, create environments where you can make mistakes, where creativity is rewarded and help people to continue to teach and train themselves. That's the investment that business needs to make in order to help schools help us reach the New Economy.

William Wilson

I'm reminded of a quote by Mark Twain, when he said he had never allowed school to interfere with his education. I think there's some recognition of the fact that all learning doesn't take place within those four walls, but, having said that, we know that our young people spend a lot of time there, so the question is what can schools do? And, I think

they can do a whole lot. As I'm looking in the audience I see Representative Gippy Graham, who is a big leader in the fight for continuing community education. One of the things I've often wondered is why we don't open up those school doors more than just from 8 in the morning to 2:30 in the afternoon. I understand that there are lots of questions of liability and what have you, but I think we can also think about how to open those schools up, make them more part of the community. It bothers me every time I see people start running around building community centers when, in fact, the schools should be that community center. And I know that, in fact, we talked earlier about students learning at different times, I think what about having night school? All we'd have to do is resolve the beings, the buses, and the books issue and we can roll on with it for the most part. So the bottom line is, I think the schools can first of all open their doors. I think the issue of partnerships is very, very important because without that you certainly can't bring the people into the schools as you would like. There is a concept called "Cities and Schools" where businesses are actually going in and setting up within the educational setting, so that when people go to school, they learn a whole lot about real life situations and parents can come and join their kids in that endeavor. So I think there are ways to invite businesses into the communities. The models are already established nationally for that. I think I would just like to see more proliferation of that activity here in Kentucky.

Myk Garn

I think one of the areas that the schools are best at, or have challenges in as well, is the idea of rationalization as we go through this process of moving to use technology and being part of this New Economy. One of the best examples I've heard lately is that about 1824 there were roughly 6,000 different time zones in the United States. Because if you were traveling from one town to the next on horse, it really didn't matter if it was three minutes earlier or later in that town when you arrived because it was several hours later when you got there. By 1854, there were four time zones because of trains. It really mattered what time you were on which track when you got to the next town. Things could get real bad real quick. And I think that idea of rationalization is what technology is forcing us to face now, and is driving some of these things. We have duplication of effort that the Council on Postsecondary Education is looking at if we have multiple programs going on at multiple institutions. For a long time we have prided ourselves on being unique with everything we do. This calls into question at what cost do we have to be unique everywhere with everything that we do?

Facing issues of in-state versus out-of-state tuition, does that make a difference to us in this time when a student can be in-state, out-of-state, or out-of-country with equal ease? A very good issue is financial aid. We put together with KCTCS an online Associate in Arts program because we think we need a beginning place where students can come to school and get started getting a degree. That makes good sense, but also a number of these students need money to do that. Financial aid says you don't get money unless you're full-time, and, in fact, you have to be full-time and pretty much on the campus to get that aid. Those are things the federal government knows are issues and they are working to solve. The more students we bring in that want this kind of education, the worse that problem gets and the more we need to solve it. One of the things I learned in my prior experience in Georgia was you can spend a lot of time trying to solve policy, but if you don't have a problem, you really can't do much about it. That was one of the joys of coming here to Kentucky. That's what we do. We're creating some good problems here and hope to solve every one of them.

Vicki Fields

I have to agree with Mr. Wilson. I think that it's very important for the K-12 arena to open up their doors to the taxpayers. Kentucky has spent \$600 million in technology and the infrastructure in every school district in this state. That means that the money has been provided to every district to have Internet access in every single classroom in this state. If we're able to train our current population of K-12 students, why not open up those doors and make that available to the adults? As we've talked about the New Economy and retraining the workforce, we need to also concentrate on those that are beyond the 12th grade and need to be trained. The equipment is there. The staff, our teachers, have been trained to do this. It's an automatic fit.

Jon Draud

I have a couple of other questions, but I think I'll defer my questions because I'd like to make sure the members of the audience have an opportunity to ask specific questions that you'd like to ask of our panel. So, it's your opportunity now if you have some questions that you'd like to address to the panel.

Questions, Answers and Comments

Questioner

I am Dan Humpert, a Kenton County Commissioner. There's a perception in northern Kentucky that the Workforce Development programs are underutilized and are failing the region. I'd like the answer with respect to the skills required. Is this a Catch-22? Are the 40 percent of the people that are underemployed that need to be retrained the same people that digital divide talks about that don't have the skills or the tools, and that don't even know that they need to do this? In other words, is that a problem? Is that what we're talking about?

Craig True

I don't know if I know enough about those programs to respond particularly, but I would think that when 40 percent can't read, that 40 percent aren't going to be very good when it comes to technology and the things that employers need them to do. Employers have to go out and find somebody, so I think, hopefully, business is coming to the realization that they can't just sit around and complain that the programs don't do what they have to do. Employers are going to have to do what they need to do to get a workforce that works for them. But, other than saying that, I really don't know enough about the Workforce Cabinet situation to offer comment.

Jon Draud

I would just comment, Dan, that I think the effort in workforce development is a reasonably new one, though, for Northern Kentucky and, like many other problems in education, they're not solved in a short period of time. As most of you probably know, one reason we're in the condition we're in in Kentucky, is that even though we've done a pretty powerful job for the last 10 years, we neglected education for over 100 years in this state and it's going to take some time to make things happen. So I would suspect part of the reason is that it is just a new development for the business community with workforce development, but that's an uneducated kind of response.

Questioner

I am Mark Kaser from the Kentucky Wood Products Manufacturing Corporation. I'm an economic development entity with an evaluator of the industry. We face a tremendous shortage of teachers that have the skills we need in training centers when we lost our industrial arts program. We've got the infrastructure in place, but the teacher pay equity is a problem and we can't bring that new technology mindset into the education program for people to participate in the Virtual University program. So we've got the infrastructure sitting there underutilized because of trained people. How do we get them out of the private sector to come into the community college and education system when the pay equity is not attractive? Once we get them we tend to lose them because the private sector is demanding like you say, so they go back, so how do we overcome that hurdle?

Craig True

I notice he gave me the microphone on that. I love my colleagues here on the panel. First, just interestingly enough, quite frankly there is really no such thing as a teacher shortage. From what I've been told, there are shortages in areas because most of your teachers flock to your urban areas where the pay is better. One of the things that we've been talking about and recommending is to do a little pay incentive. In other words, better teachers are winding up teaching our advanced courses and in our urban areas. One of the things that we think could be reasonably done is restructure the pay scale to give incentives for people to go into rural areas or areas where we need help and assistance. So one easy way is that we have to think of financial incentives. Now I know there are some other things that people would like to think about, but getting teachers to relocate from a major metropolitan to a rural area is very, very difficult.

Myk Garn

I think that brings up good issues. One of the things we've looked at with KCTCS is the challenge of getting teachers to do programs. I will admit to being a techno advocate or subversive, and we look very hard with the Virtual University at how to do this asynchronously and without an instructor being present. That isn't the case in all situations. There are some things you need an instructor for. But one thing in asking that question makes you think about whether you need them there all the time. One of the great advantages of being able to teach online is the instructor doesn't have to be there. You can harvest your instructors from another area where they are plentiful or at least cast a broader net to find them. It does mean that they may need to come there, but maybe this is twice or four times during the term for weekend sessions, where you're doing a full Saturday for the actual hands-on skills sessions. Or it's utilizing people who are there, available locally to do some of the skills training, and you can have

this expert teaching from a distance. I don't think those are all the solutions, but they do provide some more options and some alternatives for those kind of situations.

Craig True

I think I'd like to respond to that also because I know you're really talking about competing with the private sector; it's one of our major problems. My opinion over the period of my career in education is that we're not going to ever be able to compete with the private sector unless we make salaries more competitive. Let's face it, we live in a capitalistic system and salaries are important in this country, whether we like to talk about it or not. We, in education, talk a lot about intrinsic kinds of motivation, but there's a lot of extrinsic motivation that's very important to teachers and educators and I still think one of our top priorities has to be to make our salaries competitive. I know that's an old line and nothing ever happens about it, although we've made tremendous progress, but we're still a state that has a difficult time in really providing the resources that we need.

Questioner

Dan Ash and I am the Director of the Metropolitan College in Louisville. I've heard some talk about the support for technology in public school systems. I've just returned from the Conference of National Licensed Businesses where it was reported that 75 percent of the jobs that are out there today require more than high school. I'm real curious about what you think that business or primary education or government need to do to do more partnering with higher education. I have a vision of hundreds of students who are accustomed to 12 years of working with all the great things you're saying and walking into classrooms and, I'm a psychology professor so I know of which I speak, finding that that's indeed not the case in higher education.

Jon Draud

Who wants to challenge?

Myk Garn

Oh, you mean me? Well, I think our view of that is that it is a moving target in the sense that technology is coming to those who are trying to avoid it as well. So those skills are becoming more common and I mean the basic entry-level skills of being able to work on the Internet, use a browser, and some of those things. I think that that barrier is becoming less. I think one of the challenges that we have, and Chuck Martin was talking about that, was people shopping online while working. And I think the same challenge is true for education. When that's available, is this something you do on your lunch hour? How does the company think about that? We can provide a vast number of courses, programs, and things like that. We're working very hard to do it, but getting it into the corporation and having the corporation value that and set that time aside is a challenge. Some have embraced it very well where they've set up computer labs in places where people can do that or they allow people to learn at work. Others see that as a real challenge. I think someone earlier brought up the real challenge is in the smaller businesses and that's where, if there's one person doing a job, to have them take off an hour during the day is kind of tough. It's almost easier to get them offsite for a day for a workshop than take that one hour a day every day or once a week for a class. So I guess I see the capability or the entry level coming lower for those people, but I see the demand on the corporation and the company to look at the need for that and create the space, the time, the equipment, the capability as increasing.

Craig True

Yes, I guess I'm blessed to work for a company like PriceWaterhouseCoopers, that it is people. That's all we've got, so we spend the time. There's 160,000 of them and we spend a lot of money making sure that they make that jump because we don't expect them to do deals when they come out of college. But we certainly expect them to have the gray matter to be able to absorb information and learn from it. We make such an investment in it that it's difficult for me to relate to your question. I'm sorry.

Jon Draud

We're going to take one more question.

Questioner

Ashley Davis and I work for the Governor's Office of Agricultural Policy as their Communications Director. I really like what you all have said about educating and opening the schools up to the public. Rural society, you know, is where a majority of the population is in the state of Kentucky. How are you going out and reaching those people? What education programs are you going to provide for those people? And how are you going to train them coming from an agricultural background? Right now in agriculture we're missing a whole gamut of dollars just because with the value-added products, our farmers produce them, but somebody else is the middle man and getting the money

for them. Because our farmers can't sell and I guess it's a big question, but I mean, I think it's great addressing the urban issues, but I think they also have to address the rural issues.

Vicki Fields

I'll address that. I was born and raised in the rural part of Kenton County and you're right, farming was very important to my family when I was growing up. I was in a meeting several weeks ago and I listened to the Superintendent of Todd County talk about how important technology was to the farmer and global positioning. While I could not sit here and relay all the wonderful things he said about it, he made it very clear to us sitting in that room that technology was very important to them. And then I'd like to come back to this gentleman that was talking about the wood manufacturing. I think the concept and what we're talking about here is that no matter what we do, everyone has to be learning constantly, and it doesn't make any difference whether that is city, urban, or rural. There will always be people. There will always be houses built. We will always need carpenters. We will always need plumbers. When my microwave broke last week, I was dying for somebody to come fix that thing. We will always have the service industry of some type. You're right; the financial ability or the money you make is what runs this country and as long as those people want to be able to survive, they will come looking. They're not going to sit back and wait for things to come to them. They're going to come looking for help, whether they go to their co-op or whatever. It is important for us as educators and working with children and with those farmers in rural areas that we make sure they are aware of the programs that are available. But, again, as stated on this panel, our centers, our schools do need to be community centers and open to everyone.

Jon Draud

Thank you, Vicki. I planned to end this session but one of my outstanding colleagues, Gippy Graham, is here, our State Representative. Gippy, you have a question you'd like to ask?

Questioner

Gippy Graham here, and it's not really a question, it's just a couple of observations. In listening to all this discussion, it has been my experience in looking at the thing, that most solutions to problems are solved in the community. If you look at it in its entirety, this New Economy and training in technology, we've got to also remember that students have a place. They live in a community and in their community they have assets. They are assets in every community. We know through assets of individuals that if we look at the assets in the community we can also make assets of the students and come to a better society. There is a place. We have to make sure that young people feel that place in my opinion. The problems aren't going to be solved, I don't think, unless we really start involving the community. Bill, you mentioned it, I think, that's a key and I'm pleased to find that in the General Assembly now we're moving in that direction, too.

Jon Draud

Thank you very much. I appreciate it and thank you all for coming and I'd appreciate it if you gave the members of the panel a round of applause. (Applause) Let me also remind you that you are all welcome to stick around at the reception right outside the doors and to come back later on this evening for *Kentucky Tonight*.



From the left, Representative Steve Nunn, Representative Jon Draud, and Senator Ernesto Scorsone talk with attendees at the conference.

The Digital Divide

Moderator

Dr. Ernest Yanarella, Professor, Department of Political Science,

University of Kentucky

Panelists

Kevin Fields, President of Urban Technologies, Inc.

Johnathan Holifield, Vice President for Electronic Commerce,
Cincinnati Chamber of Commerce

Jim Nelson, Kentucky Department of Libraries and Archives

Doug Robinson, Governor's Office for Technology

Ernie Yanarella

I'm Ernie Yanarella, Professor of Political Science at the University of Kentucky, and it was my pleasure, seems like ages ago for those of you who are part of the Kentucky Leaders for a New Century, to be involved in that particular activity at Shakertown and at two of the earlier sessions that we had at Kentucky State Parks. I'm absolutely delighted that the group has held together, that it is involved in doing precisely what we hoped that this new group of leaders would be doing, fomenting public issues and trying to promote social change in the new millennium. I hope you will look at this panel on bridging the digital divide as something quite continuous with the conversation that this group began not too long ago and will be carrying forth over their entire careers and public lives.

We are very fortunate today in having a number of very highly qualified people on our panel who are going to assist us in ventilating a set of issues relating to the problem of the digital divide and perhaps giving us some insight on how we find solutions to that problem in Kentucky and perhaps elsewhere. I've known several of these people for awhile and I have just met some others, and so, I would like to give each of them an opportunity to provide to you their names, their affiliations and, perhaps in a few words, as a prelude, why they are interested in the issue of the digital divide. Let me say at the outset that we are extremely fortunate in having a substitute for one of our panelists, Ben Richmond, President and CEO of the Louisville Urban League, in the form of Kevin Fields, who was called in at a very late hour and was gracious enough to come in and serve as a substitute. Kevin, why don't you tell us a little bit about yourself and why and how your particular interests bring you to the issue of the digital divide.

Kevin Fields

Good afternoon. Again, my name is Kevin Fields. I'm President of Urban Technologies, Inc. We are a Louisville-based consulting group that provides support services to various organizations, primarily nonprofit organizations as well as units of government. We became very interested in this issue of the digital divide a couple of years ago. In a previous career, I worked with the Housing Authority of Louisville, was there for the past 14 years and working with various issues relevant to low-income housing communities. As this issue began to surface in terms of increasing access to technology for low-income people, I began to get very actively involved in it. Most recently, on behalf of the Urban League, I'm engaged in a project that is now operating under the name The Great Equalizer. We're emphasizing the fact that the new Internet economy creates a new set of opportunities for all people and we're looking at the Internet as that level playing field that allows all people the opportunity to get in and take advantage of it and improve their socioeconomic conditions. So, based on that, we've got interests in this whole

issue and we've got an active project going where we're talking to the community to learn what the obstacles are for accessing technology.

Jim Nelson

My name is Jim Nelson. If you're from Kentucky in any way, I'm your State Librarian and Commissioner for Libraries and Archives. I would hope that when I mention the word library that you would understand that that's the business that we've always been in as bridging divides between the haves and have-nots, in terms of information. In fact, that's why I got in the business initially. I was working for Louisville Free Public Library, as a matter of fact, beginning my career, and I looked around at all the resources and said, boy, this really levels the playing field. It doesn't matter who you are, where you come from, how much you've got, or who your parents are, or anything else: you can use these resources to help yourself and your families and that's what motivated me. And when I came in 1980, the Department of Libraries had been merged in 1974, I think, with the State Archives. So we do the archives and public records work as well. And, of course, the other piece of this is that, if somebody is not attentive to preservation of critical government information, government is no longer accountable nor is the history of government business kept available to the public. So, those are my two pieces of orientation towards today's program. I look forward to hearing from the other panelists and contributing my opinions.

Doug Robinson

I am Doug Robinson with the Governor's Office for Technology and I'm the Executive Director of the Office of Policy and Customer Relations. Obviously, with that title, I'm intimately involved with IT policy issues and planning issues with respect to state government and one of those is electronic government. If you were in the last panel on the New Economy, you heard a lot about initiatives in e-government. Clearly, addressing the digital divide, the challenges of that in creating what I'll call digital opportunities is somewhat of a function of state government. I'm not at this point clear whether that is clearly a holistic role. We have bits and pieces to play and I don't think that state government alone obviously is going to address the digital divide and bridging that gap. It needs to be addressed by public/private partnerships and community-based organizations, such as Kevin mentioned, and a host of others in the education community; but clearly state government does have a role and should have a policy agenda, which we are working on. The other thing that we're clearly interested in and is probably selfish is the fact that we have an e-government framework. We have a need to deliver our services for efficient and effective government in electronic fashion. We desire to do that. We need our stakeholders ready, and by that I mean not only citizens but businesses as well. We need to have them connected. We need to have them digitally involved. We need to have them embrace this connected world that we live in in order to do that effectively. So we have a challenge in that respect in that Kentucky has not been a state that has embraced information technology in a general sense. We'd like to see what policy initiatives that we might be able to bring forth that would transcend the divide that we have today. We can bring some statistics to bear on that and some of the challenges that we have, I think, later in our discussion.

Johnathan Holifield

Good afternoon. My name is Johnathan Holifield, Vice President of New Economy Enterprise, Greater Cincinnati Chamber of Commerce. Recently, we have begun planning our regional technology initiative, whereby we will look to discover ways in which we can accelerate the growth of the technology sector of the Greater Cincinnati economy. With that is a tremendous opportunity and responsibility to develop policy initiatives and pursue objectives where the barrier to entry in this economy is minimal. In the industrial age, the barrier to entry was quite significant. I'm from Michigan originally and all of my relatives are employed in the auto industry. The intense capital required to build that sort of industry is no longer a barrier to entry; knowledge is, education is. As we examine these issues, my interest is to assure, as best I can, that barrier to entry is low to nonexistent. It's a wonderful opportunity. As was described earlier, it is the great equalizer. The most meritocracy that we'll ever achieve will be technology-driven and with that I look forward to the discussion.

Ernie Yanarella

Johnathan, Doug, Jim, and Kevin, thanks so much. I'm not going to try to hamstring these panelists, but I did bring an agenda which I hope that we can work around over the course of the next 50 minutes or so. One issue that I think is really quite crucial to our considering is the issue of the digital divide itself in Kentucky. How big is it? Is it growing? Is it shrinking? Is it a differentiated problem? What is the nature of this particular animal that we're dealing with and we're trying to grapple with?

Secondly, and this is an issue that Joe Washington helped to smoke out among our panelists over the last week or so, we know in some sense it's a state policy issue, but is it more? What are its different facets? Is it cultural problem? Is it an educational problem? Is it a technological problem? Is it a socioeconomic problem? Are all of

these different facets of the same problem that we're dealing with? If it is, then does that say something about the kinds of strategies we're going to have to engage in over the course of the next 20 years or so to deal with it?

Thirdly, as you can see from the diversity of people who are here from different professions and backgrounds, we have another issue that surfaces and that has to do with the issue of the proper roles of different social institutions in our Commonwealth. What are those proper roles for government, for business, for schools, and for civic and faith-based organizations in communities in responding to the problems associate with the digital divide?

The fourth issue that I've suggested here has to do with strategy. Do different groups have different needs that must be responded to in developing a comprehensive and multifaceted strategy for addressing the digital divide? No less important, for those of you who were here at the previous session: the digital divide was a continuing, nagging issue that not merely stood in the background, but kept being pushed forward as people were raising questions about the role of Kentucky in the New Economy. We've got a tremendous high school dropout rate in Kentucky. Are there higher priorities? Are there complementary needs that should be addressed in advance by the Commonwealth as we are trying to shrink that chasm that goes by the name of "digital divide"?

And, finally, we may want to suggest some examples, some exemplars in the Commonwealth. A lot of things are going on. I spent two or three hours several days ago surfing the Net and coming up with a number of very fascinating projects that have been started and initiated by different organizations around the Commonwealth that seem dedicated to playing their part in closing that digital divide. So without being too much of a disciplinarian as chair of this panel, I hope that we can work within this broad ambit and perhaps then turn to the larger audience here for additional questions and perspectives on this extremely knotty problem. Doug, from your point of view, from the Governor's Office, what do you see in the way of statistics that lend some insight into this first question, the question of the size of the digital divide and the trends that are operating within this broad issue?

Doug Robinson

Given, if you take one dimension of the digital divide, and I will characterize the digital divide as you've already stated, I think, in the second bullet, it's multidimensional. It's not just an access to technology. If you take that measure of access to technology as both home ownership of computers as well as access to the Internet, clearly in the last four years, the divide is narrowing; it's shrinking in those categories. Kentuckians are adopting technology at a higher rate, certainly above the \$50,000 household income level, and it's much higher above the \$75,000 household income. Above 76 percent have home computers and access to the Internet. I think the growing divide is that big gulf between the middle and upper income and the under \$15,000 household income levels where we have the 10 to 12 percent level.

So, overall, the divide has been closing with more and more Kentuckians getting online, more and more Kentuckians having ownership of personal computers at home, but we still don't have that shift happening in the lower income brackets. This is a problem and I think can best be addressed in many cases as recognizing that, in fact, the digital divide is clearly a socioeconomic issue first and the strongest predictor is income. So, if you look at that, the second problem in Kentucky is education. Age and ethnicity is not as strong a predictor as it is in other areas, but we are no different than the rest of the south. The south itself is behind the rest of the country. Kentucky is probably positioned in the middle of those states in the south in terms of adopting this.

Ernie Yanarella

In looking at some of the tables and figures that emanate from the William Daly, Secretary of Commerce, series of studies, titled something like *Falling Through the Net*, I came across two tables which I'd like to use perhaps as a point of departure. One focuses on the issue of telephone subscribership. Obviously, getting onto the Net presumes some kind of Internet service provider and, for the time being, most of it will be driven by modems, and this implies telephone service. If we look at the bottom 15 and the top 15 states, you can see where Kentucky stands relative to the bottom 15. Right about the middle of that. In addition, in terms of household computer use, we can look again at these statistics drawn from these studies and we see once more that Kentucky stands within the bottom 10 states for household computer use, contrasted with those at the top. Where does this lead us, then? Who are those targets that need to be considered in terms of policy if we are to bridge that digital divide? Who are those groups within our society who are most in need of motivation, assistance, and so forth, in terms of gaining access? I want to focus most particularly on the issue of access first and then get us to the more knotty question and that is, is access enough? Anybody on the panel want to make a general comment about who are those target populations that we're looking at right now? Kevin.



Ernie Yanarella

Kevin Fields

Sure, I'll take an initial stab. I think most of it has already been said. Education, I think, is a critical issue, so the groups that have been undereducated in terms of utilization of computers in one part are certainly a group that are to be targeted. However, I think a bigger issue, if we look at it in real practical common sense terms, many of us that use computers on a day-to-day basis have had some reason to begin using them. In a lot of cases, it had to do with either being in the educational setting or an employment setting and a lot of the growth in our utilization came from that experience. Groups that have not had that opportunity, either through education or employment, to have that firsthand experience to begin using computers and then the Internet are the groups that I think need to be targeted. Because we are looking at the use of computers much differently with the advent of the Internet than we had in the past, if we can put our finger on that group that will be one group to go.

Johnathan Holifield

Yes. I agree that most of the core issues have been identified. It is an economic issue more than anything else. A study by the Joint Center for Political and Economic Studies, frankly an African-American think tank, confirmed that blacks, for example, are slightly below whites when it comes to overall Internet usage. That would include access on the job, at home, etc., but blacks with household incomes over \$90,000 use the Internet more than whites. So, clearly, it is a socioeconomic challenge.

Secondly, it is a cultural challenge, mostly, for minorities and lower-income people. I will briefly share a story with you. Some of you may recall during the early to mid-seventies a TV sitcom by the name of Goodtimes with J.J., Florida, James, and the rest. Well, it's in syndication and it runs reruns from time to time. I saw an episode a couple of months ago where J.J. had a new job and everything was looking up. He was falsely arrested and, you know, the family was in turmoil. Well, by the time they sent the daughter to check on the job, the job had already known about his arrest. You know what the family said? "Those damned computers." The father wanted to buy a gift for his son's 18th birthday. His credit wasn't any good. The father was upset. He said it used to be a man's word meant something. You know what the retort was? "Those damned computers." So clearly there is a cultural challenge with the embrace of technology, which probably extends back, particularly for African-Americans, as long as they've been in the United States.

Technology has always driven a certain socioeconomic response. However, this one is different than anything ever before in the history of the United States; as opposed to the cotton gin, which arguably promoted institutional slavery at a higher level; as opposed to the migration of the southern families to the north to work in the pits of the auto industry, for example. This technology is the great equalizer. It does not displace. It empowers with knowledge and opportunity unlike anything before it. So it is fundamentally different and I think must be treated fundamentally differently than the technological advances the United States and the world have experienced.

Ernie Yanarella

Excellent perspective on this. We have several people in the audience that I want to ask to offer some perspectives on this. One is Mr. Kentucky Demographics, Ron Crouch. Anyone who knows Ron knows that he is someone who has his finger on the pulse of Kentucky, not only now, but also even into the coming future. He certainly played an absolutely fundamental role in the whole Shakertown process with these young new leaders in providing some important insight into the kinds of policy issues that are coming down the pike and that are going to absolutely have to be addressed if we are going to move forward.

Ron Crouch

I have just a couple of comments. Basically, one of my concerns is, in teaching kids to use computers, are we also teaching them to think? One of my concerns is a lot of kids know how to use computers now, but they don't know how to think with computers. Can they understand the data once they get it off the computer? You know, we're showered with more and more information. The issue is going to be not getting more information in the future; it's going to be getting the right information. How do we do that? Another issue of the digital divide is that the latest data from the Census actually shows Kentucky's, as well as the nation's, poverty rate for kids is going up, not down. The other issue is the out-of-wedlock rate. In Kentucky now, one in three kids is born to an unmarried mother. Dan Quayle not only could not spell "potato," he couldn't analyze data when he talked about Murphy Brown being the poster child for out-of-wedlock babies. The state of Kentucky out-of-wedlock rate for women who have not finished high school is 52 percent regardless of age; high school only, 29 percent; education one year beyond high school, 10.6 percent. So we've got a growing divide about basically kids being left behind in single-parent families that's growing and that's going to be a big issue for the future.

Jim Nelson

Let me follow up just a little bit, please. I think Ron makes a good point. I think, from the perspective certainly of the library profession, there's a presumption that people understand that information can help them in some way, or they understand how to gather it, and how to recognize good information from bad. Obviously we all know that the big problem on the Internet is the lack of authentication for the resources or for the source of the information. I mean, there's some kid in the garage, even as we speak, who's putting something on the Web and somebody might use it in research at Purdue or Harvard and the whole of knowledge drops a dip. (Laughter) So that's a significant concern, but I think part of the divide is that issue of intelligence and education as to how to think about the technology and the context. My fiancée is a school librarian and she tells many stories about the kids who want in and want to get on the Internet to do a project for school. Frequently what they need is a piece that she knows how to get in about two seconds out of *World Book Encyclopedia*, but if they aren't on the Net and looking at all these different things, then they aren't happy. So a big challenge in this divide is how you can help people understand the value of information to what they're trying to do, either in their personal or professional lives and that can lead them to either a computer or a book.

Ernie Yanarella

Spoken well of a librarian, indeed. I want to turn to Jeanne Hibberd. Jeanne, we're trying to identify certain target groups in Kentucky that are important for our trying to close this digital divide. I know that you and Don Harker, to your left, have certainly been very much involved in looking at issues like these in eastern Kentucky. I wonder if you would say a word or two about the sorts of ideas and strategies that you folks have been involved with in terms of addressing the problems of digital divide for our rural population in eastern Kentucky?

Jeanne Hibberd

Thanks, Ernie. I'm actually doing work a whole lot more at the national level right now, but the person who took over my work is sitting right to my right. So, I'm going to pass it to Matt because he's been doing a whole lot of work here lately about MACED strategy for working with the digital divide and I think it wouldn't be fair if I talked instead of Matt.

Matthew Trail

Well, just to really sort of echo, I think, what's been said so far, I think the issue is access. It's about use of the information gained online. It's also about content, I think. It's about providing tools that people can use. It's about helping communities identify for themselves what tools that they need to bring their communities together and to create sustainable economies and sustainable communities for the future. So, MACED has been working in eastern Kentucky in the digital divide area to bring access by putting computers out there in country stores, in libraries, in places where folks visit every day in a very casual, informal way. But we are also giving them training in providing a website, a portal, that will allow them to figure out where to go to start getting that information. I think that what we've discovered is that there's a tremendous amount of interest and excitement even in rural Kentucky where computer saturation is very low still.

One of our informal studies in the mountain "hollers" in eastern Kentucky suggested that there were about 8 percent of residents of a holler that had a home computer. We think that's really significant, but we've also found that, when we talked about computers that the public could use, or when we created the laptop computer lending program where people could borrow laptop computers and play with them for a couple of days, they get on the Net. The level of interest and excitement is tremendous. There are cultural issues out there. There is the issue of, as you pointed out, telephone saturation, but folks want to know, they want access, but they also want content that answers their questions and helps them do the things they need to do every day.

Johnathan Holifield

From the big tech crash of April of 2000, I think there are wonderful lessons there. Arguably from 1994 to the year 2000, we became so charmed by the technology that businesses were built to serve the technology as opposed to technology being built to serve fundamental business practices. The same may be true when you're talking about educating some of the lowest income folks in the United States in various regions. Will the education be developed and built to serve the technology and perhaps suppress creativity among people? Or will it be used to empower people? Will the technology be used to enhance education rather than education to enhance the technology? I think you find wonderful parallels when you look at what has happened in the economy and now there's an emphasis on profit, earnings, sustainability, etc., the same challenges, although metaphorically, you'll find in education.

Ernie Yanarella

Does anyone want to speak to the issue of the elderly and the effort to deal with the elderly as a target population for closing the digital divide? Ron or perhaps anybody else?

Ron Crouch

One quick thing I don't think we mentioned: I was in the last group and asked how many people in the audience were under 40 and how many people were over 40. And guess what? The majority of us are over 40. All the growth in the state of Kentucky is over 40. After 2010, 10 years from now, for a 20-year period, all the growth in the state of Kentucky is 65 and above, two thirds of all the growth in the nation. The great news is we're living longer. The bad news is we're living longer. The workforce of tomorrow is the same workforce that we've got today, just 10 years older. We need to make sure our aging workforce is trained and skilled in the digital divide as well as our young population.

Questions, Answers and Comments

Questioner

Ernie, I think if you look at the latest data from the Department of Commerce and their *Falling Through the Net* digital inclusion report, you'll see that the fastest segment of Internet users are the age group over 50. They still have the longest way to go, but they've experienced the most significant percent increase in the last two years. I'm not sure, again, if we're addressing them. I think that's an issue. It may be a challenge, but I think we need to look at the socioeconomic issues and Jonathan's comment about the cultural issues, and I know the work that MACED is doing. We have a cultural issue that we still have to overcome in terms of just the adaptation of technology and the adoption of technology, and by that I don't mean information technology, but technology in general. When Long-Term Policy did the survey in 1996 and I worked with them, they characterized a great segment of Kentucky as technology pessimists and I think we still have a segment of technology pessimism today in Kentucky's cultural adaptiveness. We are slow. We are very slow to move to technology in general. Forget personal computers and Internet access, we have very low usage of ATM machines. We have very low usage of direct deposit, as an insurer, if electronic funds transport has been around for 30 years. We have a very low usage of a lot of technology. I think that's just beginning to catch up with the state. So, I think, home computer and Internet access issues probably are just a manifestation of the fact that Kentuckians, in general, don't like a lot of change and we are slow to move to that change. That's my cultural evangelism speech.

Ernie Yanarella

How do we address this? How do we address this as a cultural problem, as a technological problem, as a socioeconomic problem? Let me pass this back to Jeanne Hibberd.

Jeanne Hibberd

I think one of the things is that we are promoting technology for technology's sake. Most people are not going to adopt the technology until they see how it will change their lives, how it will serve their organizational mission, or how it will serve their business goals. We've not been real good at helping people understand how it can do those things and make their lives better and give them different choices. I think, once people learn that, it's not about whether to adopt the technology, it's how and where do you get the resources to do it.

Questioner

I think part of that same issue is if they have good success with the use of technology and are not frustrated by it. I mean, if they can relate it to their lives and what their problems are that they're trying to solve, then there's a much better chance that it will succeed. I notice most of the states that you had ranked are on the top ten for computer use. A lot of these states are these very rural western states where technology is the only way a lot of these people have of relating to each other and the rest of the world. So there is some very practical use of that, but I think the fact that people don't perceive yet what or how it can help them in their own lives is a big issue. The good news here is that it creates an environment for partnerships or just plain working together that's never existed before because technology blows away political, geographic, and jurisdictional boundaries. So you can work with different agencies, different organizations—public, private, museums, and video—and all can work together in this environment. Because once you digitize and bring your own resources and your own audiences and your skills to reach those audiences to this environment, you have a better chance for success, I think.

Ernie Yanarella

One of the audience holdovers from the last session is Brian Daly and I'd like to pass the microphone over to him for a second. Brian, tell us where you're from.

Questioner

OK. Brian Daly and I am from the McConnell Technology and Training Center in Louisville and this really brings us, I think, to the crux of the question. In Louisville, we have 118 Internet service providers, of which 18 are local, and 12 are free services offered in Louisville. Now we are working with eight counties in eastern Kentucky and, interestingly, all we could find was one service provider for those eight counties and, believe me, it was not free. What sort of things is the state doing to help bridge this real problem that we have? We have the clusters of technology, but we really don't have the ability in some of our areas of the state to have technology available; in particular, eastern Kentucky where there aren't the free services that we can offer in central and western Kentucky.

Jim Nelson

Briefly, if you follow the Gates library initiative, besides a nifty way to get Microsoft software into more places than ever before, he was following the image of Dale Carnegie. Mr. Carnegie really attributed his use of the public library to his success in life and committed himself to that and built over 2,500 public libraries, many of them in this state. I worked in one downtown in Louisville. Bill Gates said sort of the same thing, that it's an equalizer, a way that you can improve yourself on your own terms and so forth. So that's why he was putting his first major contributions into public library access to the Internet, and, in this state, every public library facility has public library Internet access. There's been a combination of the Gates' program; Empower Kentucky, which provided computers so we could access government services and information; and then there's the Library Service and Technology Act that has had federal funding into this and the e-rate. And, of course, the schools in Kentucky have really hit the e-rate hard, over \$50 million. A lot of the school investment has been interior wiring and access and the public libraries. There is a huge commitment across the country and here in Kentucky to have the infrastructure to use, so I think the infrastructure itself is not a problem. I think these other issues are what are more of a problem.

Ernie Yanarella

Doug, before you begin, just at the risk of there being maybe two or three people who don't know what the e-rate is, I'd like Jim to just give us a quick thumbnail.

Jim Nelson

Just a quick thumbnail description, in 1996 the Telecommunications Act had a provision for universal service. You see it on your telephone bills because the telcos obviously want to make sure that you know that your money is being charged there and it's going to these causes. Libraries and schools can use this money to improve their technology. It's not money going to them. It's money the fund pays to the vendor selling services to libraries and schools and that has allowed, like I said, \$50 million going to public schools in this state and probably \$4 or \$5 million going to the public libraries. It has made a tremendous difference to being able to provide these services and it was that philosophy that we could support equity of access through this kind of a program that drove that public issue.

Doug Robinson

Brian wants the state to provide free Internet access in rural counties. I'm not sure that that's an appropriate public policy statement. It's a complex issue. State government, I think, in our role is to as best as possible not intrude on the marketplace in a nonregulatory environment and Internet service provision is not regulated by the Public Service Commission. So I'll leave that up to them as to determine what they want to do, but certainly we understand that the issue in the state is not access, it's affordable access. There is access everywhere for the most part. Affordable is a key construct there. I'm not sure what the state can do intruding on that marketplace because, again, it's down to a question of economics. It is marketplace-driven. If you have economies of scale, enough customers in a given area, they will demand competition. You have that, obviously, in the urban areas. You have cherry picking going on with various services. You're not going to have that in rural areas. We have many counties that only have one Internet service provider.

What the state has done in terms of acting as a catalyst is with our investment in the information technology in the telecommunications infrastructure with local exchange carriers. We can at least push digital services and digital switching, which we have done, to all the counties, to all the central offices so that all of our public telephone companies in our independence that operate as a consortium at least have the infrastructure in place. What we're finding is, even with that infrastructure in place, some of it is not being utilized, it's not being exploited. In other areas, they're not really marketing or building out their information Internet service provision because the market's not there. State government's role, I believe, in this debate, is probably to understand that some of the best work that's going on is at the grassroots level. It's local community-based organizations, that community of interest, there's the MACEDs, the people that understand, that are there. State government, I don't believe, should intrude on the marketplace in force. Internet service providers provide lifeline rates to the Internet. Now there are some people that argue differently that we should be in that space. I would not. I believe that, over time, the marketplace will take

care of itself. We may not have free access like we have in Louisville and Lexington because the numbers aren't there yet, but, at some point, the relevancy of that access will take place in someone's household and they'll get online. I mean, that's the studies we have done. The grants that we've given to school districts have found that, once people understand how it can make a difference, they do get connected. They go home and then make that investment, but I think that relevancy in many households hasn't taken place yet.

Johnathan Holifield

The best role for government in this whole debate is to maximize its current role; i.e., education. Education in Kentucky, just like the other 49 states, is compulsory. Every school in the state of Kentucky, just like the state of Ohio, must have this sort of access. That is clearly a state government responsibility. It is a no-risk investment. There will be a return on that investment because commerce, education, communication as we know it is evolving. The bandwidth will be used. There will be a return. There's a guaranteed return. That is what I think the state government role is, any state government.



Ernie Yanarella

We've had, as our major concern up to this point, the issue of access. How do we address expanding access? How do we bridge the digital divide? Let me see if we can follow through on this trajectory a little bit and address the issue of why. What beyond access do we want in trying to address the issues of the digital divide? Is access enough or do we clearly have to move beyond that question to address a whole host of other issues that have to do with questions of the use, the training, and so forth? Anyone care to offer a perspective on this issue? Kevin?

Kevin Fields

I think access is certainly critical. In public housing, when we began this issue of access to technology, one of the things that we did was to install a learning center in each one of Louisville's five large public housing developments. With that, we had the ability to create training programs, and make that close to home for the residents there. I think when we talk about access, on one hand you have that tangible piece of access of having the ability for people to get their hands on a computer. Affordability is probably the biggest hurdle for a low-income community in terms of having access to computers. So, where there's a community-based initiative that enables that access to be available to individuals in a community setting, I think that creates the opportunity for some momentum to occur in terms of interest. I think what's critical from an individual standpoint is there has to be that natural interest and motivation to want to have access, but sometimes it takes the experience of having your hands on it to gain the interest. So, when we talk about access, on one hand we're talking about the access to the Internet, having it affordable. Having it free is ideal, but I think prior to that people have to be motivated and the motivation takes several forms. One, it takes being able to get your hand on it, being able to use it, and then to create that natural desire to want to touch it. So from a community standpoint again, where there is that opportunity through churches, community centers, or schools to create that learning environment that's different from the traditional learning setting for individuals to come in and use technology, I think that creates a little wave of momentum.

**(The rest of the Question and Answer session is not presented here
due to technical difficulties with the recording equipment.)**

Challenges for the Next Century

NOVEMBER 14, 2000

presented by

KENTUCKY
LONG-TERM POLICY RESEARCH CENTER

with financial support from

Fidelity Investments, Ashland Inc., and Delta Airlines

The Hellard Award

Daniel Hall

Board of Directors, Chair
Kentucky Long-Term Policy Research Center

Good morning. My name is Dan Hall. I am the Chair of the Kentucky Long-Term Policy Research Center Board of Directors. On behalf of the Board of Directors, I am delighted to welcome you to this seventh annual conference of the Center, today focusing on Challenges for the Next Century. This year's conference is exceptional in several ways. This is the first time we've held our conference in northern Kentucky and we are especially pleased to have our conference in this modern, beautiful convention center. Also, this year, the Center had several partners in planning the conference. The Kentucky Leaders for the New Century were responsible for putting together yesterday's outstanding session on Kentucky and the New Economy. Also, KET worked with the Center to plan this morning's panel discussion on Kentucky's future. And the Kentucky Science and Technology Corporation organized this afternoon's panel on Creating an Entrepreneurial Economy in Kentucky.

I would like to thank Mike Childress, the Executive Director of the Center, and his superb staff for organizing what promises to be an outstanding conference. I want to thank each of our speakers and panelists for coming to share with us their knowledge on important issues affecting Kentucky. And, lastly, I would like to thank each of you for coming to participate in discussions on how to keep Kentucky moving forward in a rapidly changing, technology-driven economy. The fact that you are here today, I think, speaks well for the future of the Commonwealth. So, let's give our speakers, in advance, applause and let's give ourselves applause for being here. (Applause)

I would be remiss if I didn't recognize in the audience members of the Kentucky General Assembly who are present this morning. Without the General Assembly, the Center would not be in existence because it's through the support of the members of the General Assembly that the Center came into existence and also is funded through the appropriation process. So for those members of the General Assembly, if you could stand and be recognized, please. (Applause) Representative Nunn is the Vice Chair and the incoming Chair of the Center's Board as well, so I am pleased to have him here.

I guess one of the great honors of being the Chair of the Board of Directors of the Center is to present the recipient of the Vic Hellard Award. So it is with great pleasure this morning that I have the honor to announce and to present to you the 2000 Hellard Award recipient. Our recipient really needs no introduction and, for those of you who were not fortunate enough to know Vic, he was the head of the Legislative Research Commission. He did a fabulous job. Vic Hellard, Jr. was a beloved figure in Kentucky public life who worked tirelessly on issues and causes to enhance the quality of life for the Commonwealth citizens. Thus, in Vic's honor, this award recognizes an individual for their demonstration of long-term vision and innovation, championship of equality and dignity of every person, efforts to enhance the process of a democratic society and approach to work distinguished by commitment, caring, generosity and humor.

I can think of no other Kentuckian who exemplifies this criteria better than this year's winner of the Hellard Award. He was instrumental in forming Kentucky Leaders for the New Century, an effort to identify some of the state's most promising leaders and to engage them in actively working for the betterment of our Commonwealth. He served in Washington as federal Co-Chairman of the Appalachian Regional Commission for Presidents Carter and Reagan. For 25 years, he was Chairman or Vice Chairman of the Shakertown Round Table, as you know, a public policy forum of the Shakertown at Pleasant Hill, Inc. He is a past Chairman of the Kentucky Arts Commission, a former President of the Kentucky Press Association, and one of the founding Directors and Chairman of Leadership Kentucky. He was a co-founder and first Chairman of the Kentucky Oral History Commission, which is now in its 25th year. In the area of education, which all of us care so dearly about, he has served as a member of the Prichard Committee for Educational Excellence, chaired the Governor's Council on Educational Reform, and was Vice Chair of the Council on Higher Education in the 1980s. He was on the founding Board of the Governor's Scholars Program and Forward in the Fifth, a program which we know focuses on improving our schools and the economy in eastern Kentucky. He is a former Trustee of Berea College, a former member of the University of Kentucky Hospital Council of Supervisors and has served as an adjunct teacher in the Political Science Department and the Appalachian Study Center. He holds honorary degrees from three Kentucky colleges or universities. He is a veteran

journalist, who is the host and producer of Comment on Kentucky, which, by the way, was aired from this very facility last night and was broadcast live over KET, which is now in its 26th year as Kentucky Educational Television's longest-running program. In addition to television and radio work, he has been in the news business for over 50 years as a reporter, editor, and owner of newspapers. Please join me in recognizing this year's 2000 Vic Hellard Award winner, Al Smith. (Applause)



*Michael Childress presents the 2000 Hellard Award to Al Smith.
Center Chair, Daniel Hall, is at right.*

Al Smith

Thank you very much.

Daniel Hall

Al, in case you're wondering about the legitimacy of your selection . . .

Al Smith

I am.

Daniel Hall

Let me assure you of three things. First of all, we did not use butterfly ballots in the selection process. Secondly, 19,000 votes, presumably for the second place winner were not thrown out. And, finally, there was no need of any recount, mechanical or manual. So you are the legitimate winner of the Hellard Award this year.

Al Smith

Thank you so much, Dan. Thank you. Is this when I accept?

Daniel Hall

Yes. This is your acceptance speech.

Al Smith

And, keeping my promise to Mike Childress to get the program on schedule, I thank you all very much and I appreciate all of you for having abandoned your breakfasts to come over and be present for this rewarding moment. I first of all would point out, about that generous introduction, that my wife, Martha Helen, says that if it's something I don't know anything about, I can meddle in other people's business, it doesn't pay, and I can be the Chairman, then that's my line of work. (Laughter) And it is to me kind of an interesting moment, too, because of the recognition of the program for the young leaders, several of who were here yesterday. I want to share the recognition for that program with my dear Pam Luecke, the Editor of the *Herald-Leader*, who valiantly really put most of that together. I had the idea for having a roundtable about the future and Pam had the idea about drawing the young people into it. I was so happy to have her support and she won over the support of the other major newspapers in this state.

I also would point out that the program that we saw last night was the *Kentucky Tonight* program. The *Comment on Kentucky* show runs on Friday. Now what we really do, Dan, is like bookends. I do the entertainment on Friday and Bill Goodman does the serious work on Monday and that's the way it's worked for us. Forty-three years ago I came to Kentucky, on a Monday, court day, in January, 1958. I had been in Kentucky since being in the Army, leaving Ft. Knox in 1946. I walked over to the Logan Courthouse and I met the former Lt. Governor of Kentucky, who was the Democratic Party Chairman, Emerson "Doc" Beacham, and I met the Chairman of the Republican Party of the County, a man named Lawrence Forgy. I met Beacham's bagman and highway contact guy, Jesse Rayburn Smith, who as Ed Prichard said, had a head like a skull, looked like a skeleton.

He was the best. I'll tell you how good a vote counter he was. Bert Combs told me that, when he was running the second time for Governor against Harry Lee Waterfield, he sent Rayburn of Logan County, who had driven Combs all through western Kentucky, to Louisville to teach the Jefferson County precinct workers how to watch for vote fraud. Bert said he thought Rayburn knew something about that. They were having a fight at the courthouse over who would be the County Road Foreman, reorganizing the county government. Beacham's candidate for County Attorney had lost the election. The guy who used to count the votes for him was with Rayburn and so there was a factional fight. It was very interesting. The Democratic majority, which controlled most of the Courthouse, was attempting to get one man in as County Road Foreman and the Democratic minority was trying to get another man in as County Road Foreman.

This was the first day I went to work as a journalist in this state and the Republicans, of course, were making book, as they say, with the minority Democrats. They held up the whole county government for three months arguing about the appointment of the Road Foreman. Twenty-two years later, I left Logan County, which by that time had sobered me up. I mean, I was there originally because there was no place else to go. I drank my way out of New Orleans. There was nothing left but the Russellville *News Democrat* in my life. I was 31 years old and I thought it was the end of the trail. The advantage of Russellville was it was not on the family farm where I had gone to dry out in Tennessee a few miles away and it was close enough for my parents to come and get me when I got so despondent I could hardly work. Twenty-two years later, Kentucky's politics, culture, aspirations, and struggle against its past, had all worked their way into my head and turned me into a believer in life, community work, and the grace and saving solace of civic life tied to family life. I had really learned that every county in Kentucky is a microcosm of the state of Kentucky. If you learn that and if you learn what Martha Helen taught me in our marriage that it's OK to live in small communities, it's fine. You can have a great life, beginning with your family and your neighbors. It's OK as long as you don't let that sign that says city limits or county limits circumscribe your life.

I went to a party in Logan County, on the last day of the month of December of 1979, and Judge Ed Johnstone, a great Federal Judge from western Kentucky, came over and put on his robes and swore me in in the law office of my friend Granville Clark. That office was the site of the Confederate Convention in Kentucky back in 1861. I got on a jet and left Logan County from the Nashville Airport and flew to Washington and walked into the Oval Office the next day and met the President of the United States. He said he wanted me to take care of the people of Appalachia, the other side of the state, and 12 other states, and work with the TVA. He wanted me to help these people with their schools, their health care, their roads, and so on. I was pretty anxious. I really didn't think I was up to the job, although I didn't, of course, act like it, as Chairman of the Appalachian Commission. But I left the White House and got in a cab and went back to my office and I got to thinking about what I really knew about Washington and about Logan County. I got to thinking about the people who had already come to me with bickering ideas about what we should do for the roads of Appalachia, the schools, and the politics. I got to thinking about that first day in Kentucky, watching Beacham and Forgy and the other Democrats and Republicans struggling over the county Road Foreman. And I realized, just as I finally realized that Logan County was a microcosm of Kentucky, that Washington was a microcosm of the people of the United States.

The big struggle was about who gets the rock, with the rock being a metaphor for how we distribute the resources of our country, our community, and what decisions we make. What are the good decisions that we can make despite our natural human greed, our human lusts, and our selfishness? How do we prevail over the old Adam in us and do the right thing? How do we do that? I saw the Congress of the United States as a Kentucky fiscal court or a city hall, the President of the United States as some kind of county executive or governor, and that there are finite limits to what we can do. I realized that the government of our country was, in a way, like one big Kentucky courthouse. I thought about what's worked in Kentucky. I can just suggest one thing. As you go down the escalator, down to the main floor of the great Northern Kentucky Convention Center, you see such a beautiful expression of what we're all about. It is a testimony to regionalism. And what it said was that "this building memorializes regional cooperation with a mission to foster economic development through tourism." The key words here are "this building memorializes regional cooperation with a mission to foster economic development." It could be through tourism. It could be through an understanding of health resources. It could be through an agreement through the area development districts that we will build an airport or a community solid waste system, or a bridge over here and we will work together.

That marker downstairs offers the names of four county judges: Bruce Ferguson, Clyde Middleton, Kenneth R. Paul, and Kenneth R. Lucas, who is now in Congress. Mr. Lucas went to Congress, I might note, as a Democrat, but is an extremely conservative Democrat and he was re-elected. He certainly in part got there by understanding the people that he knew in his community and by attempting to convey their conservative values. That's why, in the middle of a basically Republican region, he has been sent back to Congress. On the other hand, I think about some of the great Governors I have known in this state, who have taken a vision of Kentucky and moved almost against the tide to turn it and to persuade people to follow their vision of a better future. I mean the kind of future that we work for here in the Long-Term Policy Center and other community and regional organizations. I think about, of course, Bert Combs and the sales tax and Ned Breathitt following through with that, the money and the program that Combs had initiated. And I think about Louie Nunn. Back in Logan County, I was telling Steve earlier today, we used to scare children to sleep by telling them that the Republicans would come get them. But one of the greatest governors for Logan County was Louie Nunn, who raised the sales tax. He used that tax as he used to say while they were calling it Nunn's Nickel, to fund progressive programs that were developed by Democrats in their administrations, but who left the treasury bare for him when he became Governor, running on an antitax platform. I know, I don't get an agreement from some of my fellow editors, but I'm going to tell you that somewhere in the bickering and the acrimony between the legislature and Wallace Wilkinson, Wilkinson bit the bullet and we changed. We couldn't have done it without the legislature and, where some of my anti-Wilkinson friends in the press won't agree with me, we couldn't have done it without the Governor, either.

We raised the taxes to fund Kentucky Educational Reform. I don't believe Mr. Wilkinson will ever be Governor again, and we know the verdict of history on Combs, Breathitt, and Nunn. To all practical purposes, their elective careers were finished because they did the right thing. That's what we want to do in Kentucky. We're going to get over this lack of citizen involvement and participation in elections very soon, in my opinion, because we're going to have a recession.

We've had here, at the end of the longest period of prosperity in American history, apathy and a turnoff about politics. We worry about why our young people aren't interested. We worry very much about why the poorer people are not voting the way we think they should. Well, two economists from Eastern Kentucky University chatting at the reception last night were unanimous in their view that we're going to have a recession pretty soon and I think that's going to turn our politics around.

Meanwhile, in the spring of 1958, before my horrified eyes, Doc Beacham, I think, stole a Congressional seat in Congress from the incumbent Democrat and arranged for it to go to a Democrat of his faction, the anti-Chandler faction. Now I didn't really see it happen and I didn't really count the votes. I do know that when it was all over in May of 1958, Frank Stubblefield of Murray had beat a wonderful man named Noble Gregory of Mayfield by just a couple of hundred votes and they fought over that election for several months in court hearings in Calloway County. At the end of the day, Stubblefield prevailed and Beacham, who told me it was never personal and that he just wanted to send Happy Chandler a message, was on the way back to power. Shortly after that, we adopted voting machines all over Kentucky and Beacham complained to me that what we really needed now was not more precinct workers, but more mechanics.

I first met, and this is the end of acceptance, I first met Vic Hellard and Ellen at George Boone's house in Elkton. They were celebrating the beginning of their own legislative careers in the House. Vic was there and Nick Kafoglis, who was a freshman legislator, and George Boone of Elkton, whose sister-in-law, Evelyn, is a member of the Long-Term Policy Center Board, and it was a great evening. Boone was famous for his mint julep hospitality down there in Todd County and, shortly after, as a matter of fact, Boone was elected because of some Logan County manipulations that I engineered but we won't get into that too much. Beacham had died and he committed before he died to supporting a guy in Todd County, a nice man named Hayes Hampton, but I saw it as a chance to send a super guy, George Boone of Todd County, to represent Todd and Logan. I went around and persuaded Beacham's pallbearers, who were all his key men, that they ought to support in Logan County the Todd County guy and they did reluctantly, and we got Boone in for what turned out to be just one term. He was really just too good for that legislature. But, at any rate, he had a hell of a run while he was there for two years. The press corps voted him the outstanding freshman legislator.

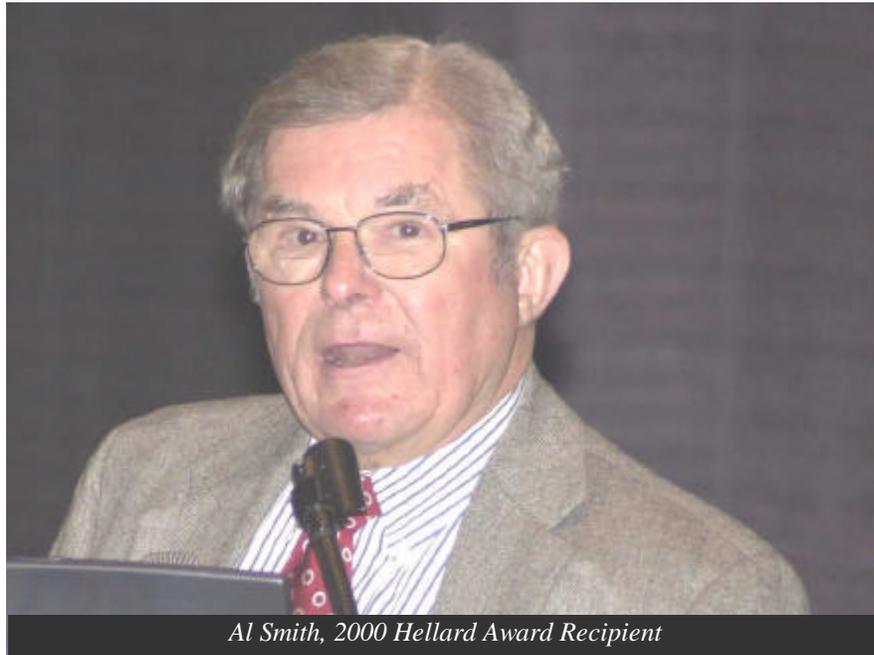
And so there we were with Vic Hellard and Nick Kafoglis and David Karem, I believe, and also Bobby Richardson, having a good time. And a year later, when I was Chairman of the Press Association in Kentucky, I called Vic and I hired him as attorney for the Kentucky Press Association. A couple of years later, he had left the legislature to practice law and make a little more money and so we hired him. He went back to Frankfort, or to Versailles, and I went back to Russellville and he called me the next day and he said, "This is Vic Hellard and I've got to resign as your attorney." I said, "We just hired you yesterday, Vic." He said, "I know, but I got a better offer." And I said, "What was that?" He said, "Bill Kenton just called me and offered me a job as Counsel to the House of Representatives. I think I'm going with Kenton." And I said, "Well, that's a great idea. Go to it."

So in the years that followed, I watched Vic Hellard in his soft-spoken, humorous, good-humored way preside over the development of the Legislative Research into a powerful resource for good government and for progress in

this state. I watched his wife, Ellen, become a valiant soldier in the cause of literacy before we used the word too much. What we used to talk about was building libraries and Ellen was one of the great librarians, supporters of books, and soldiers for books for the common man, the common woman, getting them out there. I would rank her along with Mary Bingham and Margaret Willis. And then I became a member of their river rat society with great parties on the Kentucky River at the Hellard home, where people of different political faiths and different journalists could meet together and talk about the people who weren't at the party. We'd leave a little bit tipsy at the end of the day, but vowing to do better by the people of Kentucky. Vic Hellard did well by the people of Kentucky.

It's really intriguing to think about his last two memorable "performances." All who knew him enjoyed his platform way. He loved the theater. He loved the stage. In his last two memorable performances were interpretations of the life and times of Edwin, Ed Porch Morrow, a Republican, who became a Republican Governor, and later of Irvin Cobb, who was a legendary journalist when I was a very young kid. Irvin was one of the best-known writers and personalities in journalism in the United States. Morrow can be remembered as a man who, at the end of a very close election—he was a Republican—conceded to his friend, A.O. Stanley, the opponent who had the slight edge, and gave him the Governorship of Kentucky. Four years later, nobody could stop Ed Morrow from becoming a Republican Governor of Kentucky. Irvin Cobb had a great way of writing about politicians and deflating the pomposity and the pretentiousness of the political life. The statue of Goeble, the Governor who was shot, is right there in front of the old Capitol. It's got that statement about the last great words of the Governor. As he's dying of a gunshot wound, he said, "Tell my friends to be faithful and true to the common man, carry our message forward, always remembering the good of the people of this Commonwealth." Irvin Cobb covered the assassination and the lingering, the swearing in of Goeble, who may have been dead when they swore him in. It was a Democratic day, you'll remember. It's Irvin Cobb now who was interpreted by Vic Hellard in the days just before his own death. Irvin Cobb said, "What I really think happened was that Goeble, knowing he was dying, asked for his favorite food and they brought it to him and he consumed a good bit of it. Then he began to really sink fast, they called in the doctor, and Goeble's real last words were, 'Doc, that was a damned tough oyster'." The fact that Hellard could bring us together and see the humor, the generosity and the ambition, the fruitful, productive ambition in our politics, is, again, a reason why we remember him and why I'm so honored to have this award. I accept it in the name of all the people in this state who have worked in their own way for good causes outside their own ambitions and who have realized that, when we rise above personal ambition, we can triumph in the name of the common good of this Commonwealth. Thank you very much. (Applause)

I'm not coming back for another speech. I'm coming back to get my award. (Laughter)



Al Smith, 2000 Hellard Award Recipient

The Forces of the Future

Michael T. Childress

Executive Director
Kentucky Long-Term Policy Research Center

Good morning, everyone. My name's Mike Childress and I'm the Executive Director of the Kentucky Long-Term Policy Research Center and, unfortunately, the one who always seems to have the bad fortune of having to follow people like Al Smith on the program. So please be charitable with me as I go through this presentation about some of the forces and trends affecting the future of the state.

Before I do that, though, I want to recognize the people who I work with, the folks on the staff at the Kentucky Long-Term Policy Research Center. Much of what I'm going to show you now is the fruit of their labor. Michal Smith-Mello, Amy Watts, Billie Sebastian, and Mark Schirmer. To them, I thank them very much.

I'm the only thing that's standing between you and the presentation that we're really all here to see this morning, the discussion of the 13 august Kentuckians who will be moderated by Bill Goodman, who will be discussing the future of Kentucky. But I think that this presentation can maybe help frame that, provide a little bit of context for that discussion, because we're going to be talking about or showing information and trends and data about some of the major factors affecting the future of Kentucky. Clearly, if you were here yesterday, and I know that many of you were, there was a lot of discussion about what Kentucky needs to do to adapt to the New Economy and there are a lot of sub-themes to this globalization and information technology. These trends are creating a situation where they are creating inequities, to touch on what Al talked about. In other cases, exasperating existing divisions, policymakers, citizens of this state over the next several years are clearly going to have to deal with some of these inequalities and then ultimately we're going to all have to figure out how to manage change.

And some of the sub-themes here have to do with the role of government and this major demographic landslide that is about to affect the future of this country over the next several years, with the aging of the population. Without belaboring the point, I thought I would talk a little bit about what we mean when we talk about the New Economy. First, and not necessarily foremost, but, first, is global markets. We are getting to the situation where using a global perspective for markets and suppliers and labor is becoming the norm, instead of the exception. And at the center of all of this is the role of information and technology or "digitization," as it's called by some. Innovation, knowledge workers, this kind of ideas and innovation information is becoming just as important as physical assets to the bottom line of many companies and communities, and quality and personnel are becoming absolutely imperative to be successful in this.

Now, Kentuckians are somewhat ambivalent about the global economy (see Appendix A, slide 1). This is a result of a couple of surveys. One we did in 1998 and another that we actually paid the University of Kentucky Survey Research Center to do for us. We have a project called "Visioning Kentucky's Future." There are 26 long-term goals. One of them is focused on this topic of the global economy. And we asked people to tell us if they think that Kentucky is making progress, standing still, or losing ground with respect to this particular goal: *Kentucky will benefit from participation in an integrated global economy.* What you see here, I think, are two major points. First, a large number of people believe that we are making progress, but you see a big drop off there from 1998 to 2000 in the percentage of people who think that we're making progress. So people clearly have mixed feelings about this. I think that part of the reason that they have mixed feelings about it is because there are winners and losers in this global system. These are some projections that were made by the Cabinet for Workforce Development looking out over about the next six years to the year 2006 to forecast what kind of job changes we're going to have (see Appendix A, slide 2). These happened to be the top six jobs that in their forecast will experience the largest absolute decline in jobs.

You'll see at the very top of the list sewing machine operators. I worked in a sewing factory as a bundle boy when I was in high school. That factory is no longer around. Clearly in Logan and Todd County and Edmonson

County, where I went to high school, and even in Frankfort, many of those operations have closed down. They're moving to Mexico, Central America, and other locations because of this global competition. Farmers. We all know what's been going on with tobacco and this is clearly having a profound influence on the future of family farms and our rural communities. Bank Tellers. That's probably less a function of globalization and more a result of the role of information technology.

As I said earlier, though, there are winners and losers and this is the number of ISO 9000 companies in Kentucky (see Appendix A, slide 3). ISO 9000 companies are companies that have demonstrated rigorous adherence to high quality standards that really enables them to engage in economic relationships with the European community and others. It's really a badge of honor. In fact if you drive along the Interstate, you see companies have big banners frequently out in front of their buildings indicating that they're an ISO 9000 company. And a number of Kentucky companies have clearly gone up over the last several years in terms of how Kentucky looks with respect to some of the surrounding states (see Appendix A, slide 4). You can see the yellow bar, Kentucky, 6.1 companies per thousand, but it's right there with surrounding states where we're obviously far behind Indiana and Ohio. Some of this, however, is primarily manufacturing-type businesses that get ISO 9000 registration and those states have a heavy manufacturing presence. So does Kentucky, for that matter, but we seem to be doing quite well with that.

Kentucky Exports (see Appendix A, slide 5). Kentucky exported in 1998 almost \$9 billion worth of goods. Kentucky ranks, I believe, 22nd in a ranking of the 50 states with respect to the value of our exports. We've experienced huge increases in exports and we export a really broad range of products.

Foreign Direct Investment (see Appendix A, slide 6). This is the Toyotas. We've seen a large increase over the last, really, 20 years in the level of foreign direct investment. Almost 90,000 Kentuckians work for foreign affiliates, and a foreign affiliate is defined as any business that has a least 10 percent foreign ownership. The average for the United States is almost 80 percent. On average, these jobs pay higher than domestic companies. And finally, in the percent growth, and this is since 1977, the percent growth in employment among these foreign affiliates has been the largest in Kentucky when compared to selected surrounding states (see Appendix A, slide 7). So it appears that we've actually done quite well, looking at several indicators there.

The digital economy. It's hard for me to describe the transformation, this New Economy. The third wave, the digital revolution, whatever you want to call it, is just really having a tremendous impact on this nation's economy for sure and will continue to have an effect on Kentucky's economy. Here, Donald Johnston is comparing it to the industrial revolution and the Gutenberg Press and this is no small fact (see Appendix A, slide 8). I can remember about a year ago, there was a show on the History Channel or Discovery Channel where they were polling various leaders in the United States—political, intellectual, and military leaders—about who they thought was the most important figure over the last millennium. And the consensus opinion was Gutenberg. So that's saying a lot, comparing that to Gutenberg.

CEOs seem to believe that it's going to have a huge effect on their business. This is a result of a PriceWaterhouseCoopers study of CEO interviews (see Appendix A, slide 9). The vast majority of them believe that their businesses will be affected at some level; that is to say this information technology. It's easy to see why. Take banking, for example. You can see the largest red and blue down there at the bottom of all the sectors. Chuck Martin yesterday held up a bar chart to illustrate this point. There was an article in *Business Week* talking about how information technology is affecting banking. It costs about \$1.25 if I go in and do a transaction with the teller. The transaction costs \$1.25 with a teller. If I do it over the phone, it costs about \$.54. If you do it with an ATM, it's about \$.24, and if you do it over the Internet, it's about \$.02, so you can see that there's a lot of efficiency to be gained by embracing these technologies. It's had a huge effect, as you know, on our economy. It's helped keep inflation low, and increased productivity. The online business-to-consumer sales has been estimated at about \$23 billion for the first seven months of 2000. Forrester Research has projected that in 1997 they estimated about 3 percent of the U.S. population 14 and over had made an online transaction. They forecasted that by 2003 it would be about 30 percent. They may have updated that by now, but this is something that a lot of people are, of course, willing and eager to use.

But the real benefit here appears to be in the so-called B2B, or the business-to-business transactions. They are projected to be at stratospheric levels and there is a lot of money that businesses can make here. Chuck Martin talked about some of this yesterday, in fact, this last point here (see Appendix A, slide 10). At least one estimate puts it at \$7.3 trillion by 2004. That's a number that Mr. Martin presented yesterday. And you can see here why the business-to-consumer transactions get most of the ink. The B2B stuff is really where the action is (see Appendix A, slide 11). These are some projections out to 2003 from the U.S. Internet Council out of Washington, D.C. and you can see the comparison and the value of these transactions between them.

Registered Domain Names (see Appendix A, slide 12). To what extent are Kentucky businesses really embracing these information technologies? Kentucky is the 2nd one from the bottom there. We collected these data for different years—1997, 1999, and 2000—and these are only estimates. We have the data, but there are some issues with the data, so I trust these as a comparison as a relative measure of Kentucky to other states. I don't trust the absolute numbers so much. Given that, though, you see that the number of businesses in Kentucky is roughly one

half the U.S. average in terms of the number of businesses who have a registered domain name per thousand businesses.

These data are from the University of Kentucky Center for Business and Economic Research (see Appendix A, slide 13). In 1998 and again in 1999, they did surveys of businesses in Kentucky to find out really what kind of technology they are using and how they are using it. What they found in these two surveys is that about 15 percent of the businesses are selling online and about 10 percent are advertising online. Given that, Forrester reported that about 34 percent of U.S. businesses were online in 1999. So you can see that the Kentucky estimate clearly lags behind the U.S. estimate. And, it's really unfortunate in many ways, I think, because it's a way for Kentucky businesses, especially small businesses, to prosper.

I had a couple of people come up to me yesterday after Mr. Martin's presentation and after the Digital Divide presentation. They worked in various Chambers around the state and they said the thing that people don't talk about is the digital divide in the business community. The big businesses in Kentucky are capable of taking care of themselves. They're really using these technologies, but the bulk of the businesses, of course, in this state are small businesses and they're really not using this to the extent that they could be. The National Trust for Historic Preservation surveyed 1,500 main street businesses in 16 downtown commercial districts nationwide (see Appendix A, slide 14). This study was reported on about two months ago, maybe three months ago. What they found was that about 16 percent of these businesses were online to sell products, and that about 14 percent of their total sales came from the Web.

We all care about downtowns. The Governor's Office has an initiative to try to make downtowns strong. I live in Lexington. People are always wringing their hands about the future of downtown Lexington. The Kentucky League of Cities has a big effort to try to build up Kentucky's downtown districts. What they found in this survey was that, with 14 percent of the total sales coming from the Web, that it was enough to keep them in business in many cases. It put them over the edge because they're running such tight margins as it is. So it really can be a tool, and unfortunately it's an underutilized tool, for not only keeping businesses strong, but for keeping downtowns invigorated across the state.

What these changes are doing is increasing the educational demands for Kentucky citizens and for Kentucky institutions. This rather long statement by Robert Reich was recently published in the *Chronicle of Higher Education*, but at the end of it, I thought it was a very good statement (see Appendix A, slide 15). What he's arguing here is, "thus demand is growing for people who can spur innovation by identifying and solving new problems or figuring out what clients and customers might need or want." We really need good thinkers out there.

Going back to the Cabinet for Workforce Development, what they've projected is that 8 out of 10 jobs created out to 2006 are going to require more than a high school diploma, so the bar is clearly increasing. How's Kentucky been doing? (see Appendix A, slide 16). These data are from the Current Population Survey. The Kentucky data represent a three-year moving average. This is a percentage of persons with at least a high school diploma and you can see that Kentucky has made up some ground over the last several years, but we still have a lot of ground to make up. Nevertheless, if you calculate these ratios, we have caught or made some ground on the U.S. You can't really say that with the percentage with at least a bachelor's degree (see Appendix A, slide 17). We still have a significant gap there, but I know that there are people, the Council and the various institutions and others, who are working very hard to rectify that. What the Council on Postsecondary Education has determined is that we need more undergraduates, lots more. Nationally, about two thirds of high school students attend college. In Kentucky, it's about half. In 1998, it was 53 percent. To reach parity with the national average—this was all tied into per capita income and our quality of life—we would need to increase enrollment from about 161,000, what it is now in Kentucky's public institutions, to about 221,000 by 2014 and 241,000 by 2020. So, we've got a lot of work to do.

There's a payoff, as we all know. Education pays (see Appendix A, slide 18). Again, this is some analysis of Current Population Survey data. You can see that there is significant return to education and that return has been increasing over time. In the late 1960s, the weekly earnings of college-educated men exceeded high-school-educated counterparts by 40 percent. That increased to 60 percent by the late 1990s. That's what this information technology, globalization has really done to the education system in terms of increasing the returns.

The Nobel Laureate, Amartya Sen, wrote that the economies that have been most successful in the recent development of world trade have all been oriented toward education. So we seem to be doing about average, but we're doing about average with respect to the surrounding states, with respect to how well our businesses are integrated into the global economy. Kentucky businesses appear to be trailing the U.S. somewhat, and it's created a situation of winners and losers. This has, as I said at the beginning, really widened the gap with respect to income. There's a digital divide, an education gap, and health care created some new gaps, or exacerbated existing ones.

This is a ratio of upper to lower middle class income over the last several years (see Appendix A, slide 19). The yellow line is Kentucky. High ratio means that there is a bigger gap, and, over time, the trend, you can see, is an upper one, with Kentucky being consistently higher. This shows over time in the percent difference in the real change in real family income and you can see the 25th percentile is about flat, which is over this time period (see Appendix A, slide 20). Families at the 25th percentile, after adjusting for inflation, are about where they were in 1997

compared to where they were in 1977 for Kentucky. Whereas folks at the 75th percentile and 90th percentile really increased; the folks at the bottom really fell down. Among economists, the consensus seems to be that it's primarily a function of this New Economy that we've been slowly easing into for the last several years with globalization, information technology, and an increasing return to education. We have in Kentucky, unfortunately, a disproportionate percentage of our population with lower levels of education and skills, and so we're being hit a little bit harder than the U.S. average. There are other reasons for the income gulf, having to do with the labor market structure and some demographic shifts as well.

The digital divide, the numbers for the Internet access, Internet use, and computer access have been going through the roof (see Appendix A, slide 21). There are a lot of reasons why it is very important. At a purely mercenary level, the research has found that individuals who use computers at work tend to, holding all other things constant, earn 10 to 20 percent more than their counterparts who don't use computers. It's increasingly becoming a source of where we get information about how we live our lives, as Chuck Martin talked about yesterday. So there's a real danger here about embedding a structure of social stratification that does not favor those who don't have access to this.

Quickly, let me give you some statistics on Kentucky, 1998 data (see Appendix A, slide 22). Just last month, the Census Bureau released a report on *Falling Through the Net*. They have a series of reports that they periodically issue and they have the 2000 data. I'm not showing the 2000 data because what they do is aggregate their data at the household level and I have all my stuff at the individual level. We actually went into the data and analyzed it ourselves. So, with that in mind, I wanted to keep it at the individual level, but, if you look at the 2000 numbers, imagine that they'd be a little bit higher than this, but this rank ordering more or less stays the same. What I take away from this is that Kentucky is really doing kind of good, in a way, with respect to the way individuals are using these technologies. We're right there close to the U.S. average. There's not a statistically significant difference between Kentucky, Tennessee, and North Carolina.

Individuals using the Internet (see Appendix A, slide 23). Again, we're doing pretty well. We're trailing the U.S. average, as you can see, but not by a whole lot, and there's not a statistically significant difference between Kentucky and Tennessee, who's right in front of us. These data are from the University of Kentucky Survey Research Center again. We've been collecting these data on Internet use since 1996, and really we can say that for the first time in the state's history, a majority of Kentucky adults have access to a computer in their home; that's the little turquoise portion of that chart (see Appendix A, slide 24). For those who said, "I don't have a computer at home," we asked if they had access to a computer someplace else, like school, work, or the library. Twenty-four percent indicated that they did, so almost 80 percent indicate that they have access to a computer someplace.

Internet access (see Appendix A, slide 25). Again, for the first time in our state's history, of course the Internet hasn't been around that long, but 63 percent of the adult population indicate that they have accessed the Internet in the last year. We cut the state up into four regions (see Appendix A, slide 26). They're self-explanatory, and you can see what you would expect with the Urban Triangle being the leader of the pack with respect to Internet access. I think that in 2000 part of the good news is that eastern Kentucky, which had been significantly trailing the other regions in 1998, really shot up extensively in 2000. We see a clear divide here in terms of the access to these technologies. In this case, this is the Internet along education level, while the level has generally been increasing. You can see the bars get generally higher (see Appendix A, slide 27). There's still a clear division here and this cut up in terms of educational attainment. We did some more formal statistical analysis to explore the digital divide in Kentucky. What we found was, while holding a number of sociodemographic factors constant, that the upper quartile of Kentuckians are almost three times more likely than the lowest quartile to have access to a computer to access the Internet. There's a big difference in terms of people who have a bachelor's degree compared to high school.

Race is a big factor in terms of the divide. There was one of these divides that actually got wider. They all narrow, except for one, between 1993 and 1998. The one that got wider was between non-Hispanic whites and non-Hispanic blacks. In 1993, they were about the same with respect to Internet use, but by 1998, non-Hispanic whites were about one and one half times more likely to access the Internet than non-Hispanic blacks. So we clearly have a system of haves and have-nots in Kentucky.

We, unfortunately, also have an opportunity gap (see Appendix A, slide 28). Incoming freshmen, and this is national data here, really don't reflect our wider society. The yellow chart bars here reflect the U.S. population. About 26 percent of the U.S. population have family incomes below \$25,000, and so on. The incoming freshmen, though, according to the UCLA Study on Incoming Freshmen that they do nationally, are in the red chart and you can see that they're underrepresented in the lower income group and overrepresented in the upper income group. What I take away from this is that the very people who need access to that which will level the playing field for them are, unfortunately, less likely to access it.

We analyzed some data, again using some statistical modeling to estimate the probability of attending school for 15- to 24-year-olds (see Appendix A, slide 29). Here I'm showing it broken out by income quartile, again, in the United States and Kentucky. You see that, if we focus on this column first, lower income people in Kentucky and

the United States have a lower probability of being in school. What's interesting about this is that there's a big difference between men and women in Kentucky and there isn't nationally. Nationally, men and women look pretty much the same. In Kentucky, the men have a much lower probability than women of being in school. Again, the very people who need it the most seem to have the lowest probability of actually being in school.

We did a survey again with some folks at UK at the Education Policy Department (see Appendix A, slide 30). The University of Kentucky Survey Research Center administered this survey for us of 3,000 16- and 17-year-olds we mailed this survey to. We got about 1,000 back, and they're going to talk some more about it in this room, actually, this afternoon, in the education panel about some of the other results. Here are some of them. Who is taking AP classes, for example, the very courses in high school that will lay the foundation for success later in college and postsecondary education? You can see there are some pretty high percentages, broken out by income group. There's a clear increase as you move to the higher income levels. Especially down here at the AP level, you get into the upper income levels and you have a much higher likelihood that these kids will have taken these classes.

What about costs? (see Appendix A, slide 31). Again, this comes from that same survey. Again, you see the lower income kids, and this empirically verifies what intuition would suggest. A lot of people will tell you where there's student loans, grants, and all kinds of ways to enable people to go to college, particularly among the lower income levels that cost is a major obstacle and you can see the red portion of that chart. Two thirds of them feel that the cost of postsecondary education would be a major obstacle for them to attend college, compared with about 6 percent up at the top here.

Another important factor that policymakers and citizens are going to have to deal with in the future clearly is health care (see Appendix A, slide 32). I talked earlier about the 26 goals in the citizens' survey. This goal the last time we did this was considered to be the most important goal of the 26, which was very interesting. This survey was done, I believe, about a year, maybe even closer to a year and a half ago. A majority of the population feels that we are losing ground with respect to satisfying this goal. These are some data from the UK Center for Health Services Management Research and the UK Survey Research Center from 1997 that show on the red bars the distribution of the population of people without insurance (see Appendix A, slide 33). You can see that they're disproportionately located in the lower income. These are your working poor folks. So there are winners and losers.

There are increasing returns to education and skill resulting from these changes that our economy is going through. Kentucky has a lower supply of high-skilled workers and that's what's causing our ratio in the income gap to be wider than that of the nation. The key, obviously, is to develop a more educated population and skilled workforce. One of the problems is that the people who probably need the education and training most appear to be least likely to get it. So we've really got our work cut out for us, I think, to get those people to be included and part of the education system.

Finally, managing change, while all of this is swirling around us, we've got some other big things taking place that are going to hit us like a sledgehammer, such as Kentucky's aging population. We're going to be talking more about the aging population this afternoon in one of our breakout panels. Kentucky's population is projected to age at a faster rate than most states (see Appendix A, slide 34). In 1995, Kentucky, in a ranking of all 50 states, was ranked 28th in the percentage of the population aged 65 and older. By 2025 it's projected to move up to 14. It's not going to be a good thing. It's not going to be a bad thing. It's just going to be a different thing. It's going to create new demands for government and nonprofit, and anyone who is engaged in the lives of their community, because there are going to be so many elderly people, and it's going to be a source of strength, too. I think it's something that we'll really be able to capitalize on. But, it's going to create some financial pressures.

This is a rather extended quote from an Urban Institute report that was published in 1998, before the Congressional Budget Office started coming out with all of these projections forecasting these enormous surpluses. Within three decades, according to projections by Social Security and Medicare, pension and health demands of rising baby boomers, combined with the rising costs of health care and interest on the debt, will eat up close to 100 percent of the projected revenues at current rates, leaving literally nothing for any public expenditure. I don't know if that's going to happen or not, but what I do know is that it's going to increase demand for certain governmental services. CBO, Congressional Budget Office, is projecting a Federal Budget surplus of \$4 1/2 trillion dollars from now to 2010. I was just reading in the newspaper last night that in January, CBO is going to issue an update of that forecast and they're going to increase it by anywhere from \$500 billion to \$1 trillion dollars. So the next President is going to have \$5-6 trillion or the next couple of Presidents from 2000-2010, maybe they're going to have that to play with.

Government is really going to be focused on closing this education gap, ensuring their older citizens are engaged and noting the continuing importance of social capital. Government can't do all of this. The National Governors' Association issued a report, about a year ago, and they talked about this. We've talked about it in some of the reports that we've written about. Social capital, finding partners in public/private partnerships to work to try to solve some of these problems and to capture some of the opportunities that present themselves, will continue to be important. And then finally, we must develop efficient, results-based government. This whole information technology

revolution is really creating a lot of opportunities for government to engage the citizens and to be more efficient and productive.

I thank you for bearing with me and I'll say that we're going to take about a 20-minute break here. Please try to be back in here by about 10:30, if not maybe a little bit before, because that's when we're going to start the KET portion of the program. Thank you very much for your patience.



KET Panel Presentation: Is Kentucky Making Progress?

Moderator

Bill Goodman, host of KET's Kentucky Tonight

Panelists

*William Baker, attorney, former member of the Kentucky Supreme Court
and the Kentucky General Assembly*

*Betty Bayé, Courier-Journal columnist, writer and civic activist
John Berry, Jr., attorney, counsel for burley tobacco farmers,
and former member of the Kentucky General Assembly*

Paul Chellgren, Chairman and CEO, Ashland Inc.

Gordon Davies, President, Council on Postsecondary Education

Wendell Ford, former Governor and U.S. Senator

Nancy Jo Kemper, Executive Director, Kentucky Council of Churches

Kris Kimel, President, Kentucky Science and Technology Corporation

James Klotter, State Historian

Sylvia Lovely, Executive Director, Kentucky League of Cities

*Gerald Smith, Professor and Director, African-American Studies and Research,
University of Kentucky*

Jane Stephenson, founder and former director of

Berea's New Opportunity School for Women in Berea and civic leader

Michael Childress

From the Northern Kentucky Convention Center, KET and the Kentucky Long-Term Policy Research Center present "Kentucky, Challenges for the Next Century." A panel of distinguished Kentucky leaders has gathered in Covington to discuss the state's progress on issues vital to its future. Specifically, the group will address 26 long-term goals crafted in 1994 as part of the *Visioning Kentucky's Future* project. Our host and moderator is Bill Goodman.

Bill Goodman

We've had an election in Kentucky. Governor Smith has been elected. He's promised to bring a new energy, a new vitality to the state, and he's talking about a New Economy. But there are problems ahead. The report card is not good. The headlines in the newspaper decry "State Economic Rank in Decline," and they cite a low pay scale, an economic condition that is not good, a continuing education deficit and a large population of working poor; but there is help on the way. Governor Smith has asked you, Kris Kimel, to head up a group of citizen thinkers to craft a strategy for him which will take Kentucky into this next century with good, solid economic prospects for all Kentuckians. And he wants you to bring him information on what he's calling the "New Economy." What's the first thing that you tell, or do, for Governor Smith?

Kris Kimel

Well, I think in terms of explaining the dynamics of the New Economy, probably I would emphasize two initial points that I think would be incredibly important for the Governor. It could be a female governor, right?

Bill Goodman

Governor Smith, that's right.

Kris Kimel

For the Governor to think about as they craft this strategy, those two things would be speed and innovation. I think in today's world, clearly, if the state is going to move forward, it's going to have to address innovation in a pervasive way and then, coupling innovation. And when I say that I mean innovation that's really diffused through the entire apparatus of state government, everything from government to the economy. Then secondly, and very close to that, is the issue of speed. We live in a world where speed has become as important as price and cost in the competitive equation and, again, that goes for both the economy and, I think, government as well. So those would probably be the two things that I would start with.

Bill Goodman

How do you include in your report to Governor Smith all of the citizens of Kentucky? How are you going to be the enabler with your citizen panel here to allow Governor Smith to understand that it's not just the few, but all the citizenry that need some assistance?

Kris Kimel

I think that would be self-evident in today's world. Even this conference has addressed a lot: the issue of education, knowledge, and the importance of ideas to the economic development of the state. Clearly we talk about ideas and knowledge we have to encompass everyone in the society. We can't afford to leave out any particular group, and if we do, if we are leaving out economically disadvantaged people or minorities or whatever, then we are basically eliminating from the equation a large group of very bright and potentially successful people who can contribute to the economy. So it really is something that isn't just for a few people.

Bill Goodman

So we recognize we have a few problems. Sylvia Lovely, you have written that the worst thing about a crisis is not having one, the idea being that a crisis will stir enough passion and prompt enough action to find a new way to approach a problem. Kentucky should be primed for problem solving since we have a plate full of them, wouldn't you say?

Sylvia Lovely

Oh, yes. I would say that we do. I guess Al mentioned this morning of recession coming and that perhaps would be the next crisis that would be our opportunity, but I think our opportunity's upon us. I think this Governor Smith would find out very quickly that the alpha and omega is community building and would find that to be quite natural. But Bill, if you look at the 26 ranked goals, I think it's interesting that health care is number one and safe and vibrant, caring communities is number three. It's those basic things that are real important. Now we're not doing all that well on health care reform.

We've got our problems. We share those with everyone, but I think safe and caring communities is the basic building block, which actually we have in great abundance in Kentucky. And I guess I would tell the Governor that one of the things that I've become of late is an optimist—that we can fix our problems. We have small and vibrant places in abundance out there and I think what we've got to do is build on our strengths better than we have in the past. And I did write that about crises, and I believe that that's true. I think we have an abundance of crises, but I think those have to reach people as well. And we have a very low crime rate in this state, for instance. It ranks very high, but maybe people don't realize that it's actually safer in most Kentucky communities than it is anywhere in the nation.

Bill Goodman

So to begin the conversation with Governor Smith, how would you concretely go about sharing some ideas to really enhance what you've both just spelled out? How would you instill in people an entrepreneurial spirit that will encompass all 26 goals and tell Governor Smith that this is the forward direction that he needs to take the state in?

Sylvia Lovely

I think we've got to engage local leaders. I don't think we're doing all that good a job with a broad-based civic engagement. The communities you see really catching on are those that are very vibrant, that have found a way to tell their story internally within their community and outside as well and to start their problems from a local leadership perspective. I think we're going to have to engage broad-based local leadership in education, the New Economy, whatever it is. We have to reach down and we can't do that from a centralized level. I think it has to reach down at the local level.



Kris Kimel

Kris Kimel

You mention the word entrepreneurial, and certainly to me that's probably the key aspect of this. That is, I think I would encourage the Governor to focus an awful lot of attention to the issue of helping people become entrepreneurs; and by becoming entrepreneurs, I'm not speaking only of starting companies. In fact, at the Kentucky Science and Technology Corporation, we have our own definition that involves the relentless pursuit of new ideas resulting in an innovative creation. Because it's our view that entrepreneurs, whether they're starting companies, or working in existing companies, or scientists or engineers, have to have certain characteristics and traits which embody the aspects of the New Economy.

Bill Goodman

Mr. Berry, Mr. Kimel has asked you to be on this panel because of your experience, your wisdom, and your sage advice throughout the years. Are you troubled at all about this conversation that we're having in the state having to do with entrepreneurial and New Economy and have we left something out of the equation, out of the conversation?

John Berry

Well, the conversation about entrepreneurship is not an unneeded conversation. We need entrepreneurship. We need people attempting to form small businesses and be involved in the economy and to be a player in the economy. We need people out in the rural areas to get involved in such undertakings that in a way complement agriculture and the rural community. I think the problem that you would have advising the Governor about that subject is that there is some serious question today about the extent to which anybody can be a meaningful player in the economy. Where all of the major segments of it have been gobbled up by large corporations and, in the case of farmers, for instance, the only thing left is the possibility of maybe filling a niche somewhere because mainstream agriculture is only available to them through contract.

So, do we have a national or a state policy that even permits the small businessman to be a player, to have a piece of the action? The world market certainly doesn't offer much of an opportunity except on a case-by-case basis and to fill a niche here and there. So, yes, I would advise the Governor to pursue that as a part of industrial and economic development, but in a way that offers the average person an opportunity to engage in business. For instance, in rural Kentucky, our businesses are drying up. The small businesses are simply closing and they're boarded up because we have a policy and a philosophy in this country that bigger is better and that a few ought to have it all instead of all of us having an opportunity to have enough. So I think it would be difficult, as a practical matter, for the Governor to say "make that investment, invest your time, energy, money, and risk your family's ability to survive" on endeavors for which there's not really a practical and feasible place in the economy.

Bill Goodman

Mr. Chellgren, would you address the situation that Mr. Berry has brought up?

Paul Chellgren

Well, it's a real issue, but you have to start off from the assumption that Kentucky doesn't operate in a vacuum. Kentucky is part of the national economy. Kentucky is part of the global economy and some of these trends toward globalization, lower costs, greater economies of scale, and more productivity are relentless and cannot be ignored over time. The challenge is going to be picking the niches, focus, setting priorities, and trying to understand what particular competitive advantages Kentucky has in this kind of national and global competitive milieu we're talking about. If you're trying to fight it, you're not going to be successful, and occasionally we've tried to fight in Kentucky.

Bill Goodman

Would you say we've already lost the fight?

Paul Chellgren

No, not at all. On the contrary, I think Kentucky has extraordinary competitive advantages and our recent economic success demonstrates part of that. But you've got to pick and choose and set priorities, have focus, have a center of excellence, and do the kind of things that play on Kentucky's great strengths and great traditions. And we have many, many of them.

Bill Goodman

Mr. Berry, do you accept that analogy?

John Berry

I'll accept it as being the prevailing analogy and analysis. A couple of good points were made. One is that there's this relentless effort to bring about the national and international, global economy and that all of this is happening and we can't do anything about it. I think that is capitulation to the terms of surrender, which I'm not willing to sign at this point. People call that progress and Webster says progress is forward movement, among other things. But that's saying forward movement in any direction is progress. Forward movement that is not in the direction that improves quality of life, achieves the greatest good for the greatest number, makes people happier, and includes the most people, is not progress. It's just a policy that says that we should be prepared to make the best of a situation we don't like and clean up after bad policy. In other words, it's to have a big scoop and have it setting on ready and I just don't buy that as being good public policy. I think in this country we have the ability to determine the direction we go. And so good policy evolves from good leadership and vision, which I think is sorely lacking.

Bill Goodman

Well, that's what we're going to get from Governor Smith. You quoted Webster. Let me quote Brother Wendell. He wrote that "competing in the global economy means that we now have an opportunity to sell the same things we've always sold at even lower prices." So, to the rest of you, let's just narrow it down and talk about that one particular area first. That would be the conflict we see between where we've been and where we are today and where, some of you and certainly a lot of people would say, we need to go and how we get there and be successful in both ends.

Wendell Ford

Bill, let's get back to where you started. We've kind of veered off a little bit the advice to Governor Smith. I think that you can take a leaf from the present administration in Frankfort and look at what the process has been. I like it and it should be accelerated in my judgment. That is forming partnerships with the business community, with the educational community, and with labor unions. Bring them all, form these partnerships and, when you do, you have the programs that are now going forward in Kentucky. The leverage funding comes from the legislative budget for Kentucky and so that is the drive. How well Governor Smith handles that budget in the future will be one of the major areas in which he, or she, will be successful or not. So, I think you have to look at the partnership.

I think you have to look at cities and counties to form a partnership without going through the rigors of a political merger. I think you could get away from that and the city and the county could work together. Sylvia probably could come up with some pretty decent ideas. I don't know whether I'm right or not, but I think I am. And if there's someone here from Murray they can correct me, but, as I understand it, the rural utility service and the city of Murray are putting in fiber optics. Of course, they have the Murray State University, which is important to the community, but the total community will do that through a cooperative effort and it had to be approved somewhere along the line. And, so, you get into this decision of whether you're going to debate or discuss. I always found you accomplished more if you sat down at the table and discussed it rather than having a debate.



Senator Wendell Ford

So the forming of these partnerships out there will depend on the leadership of Governor Smith and this commission that he is attempting to appoint to give him the ideas. Now, number one on the list is the toughest. That's health care. When you have people that will not participate, you go on television and advertise that it's there and you increase the participation. Then you find some people that fall through the cracks because they're not paying any attention to it until they have problems. This goes back to

Sylvia's comment that you have to have a crisis to get them interested. I hope not. We're sitting here now with Kentucky on the verge. Energy in my judgment will be deregulated soon. We have the lowest energy rate, electrical rate, in the country and, when we start wheeling our energy, there's going to be a potential crisis. Everybody is going to want to buy ours at our price and sell it high. That's all right. I think that's the American way, John, but

then we will be forced into churning out more energy, and basically it's from coal; and then that becomes a problem for the emissions.

And if I could raise from the ashes of 1980, when we lost an opportunity to have an economy that would be new sources of energy, if we had stayed the course, today we'd be producing in Kentucky tens of thousands of barrels of oil per day. Canada stayed the course with Tarsands. It has been estimated that 30 percent of the petroleum used in Canada is from Tarsands. So that's 20-20 hindsight. But if we made a mistake and didn't take advantage of it, we still have the resource. We still have the knowledge. We still have the ability. It might be a little more costly. So you get into a lot of things. This is going to be the middle of a blackberry pie.

Bill Goodman

Some comment from the panel on Senator Ford's synopsis there? Again, look at economic growth, pointing out the number one problem with health care. Mr. Chellgren, again, let me hear from you on the strategy that you might bring to Mr. Kimel in the first meeting of the citizen thinkers and recommend, encompassing what you've heard in the last few minutes.

Paul Chellgren

Well, a couple of points have already been made, like the point that the Senator just made about partnerships. And, in recent years here in Kentucky we've seen a wonderful entrepreneurial, with a small "e" rather than a capital "E," kind of an attitude. There is a lot more flexibility with the state government, the universities, and a lot of private firms inside and outside the state; and clearly these are the kinds of advantages Kentucky can bring to the table in a national and global sense. We have many, many other great advantages and assets to bring to the table, so I think my advice for Governor Smith would be to use the term "optimism," Sylvia. Accentuate the positive: our labor force, its availability, its stability, its predictability, its work ethic; the kind of things we're doing in K-12 education and higher education reform under Gordon and his team's leadership, which I think are some of the most exciting and dramatic things in the country.

I travel around the country a lot and in Kentucky, and actually more so than within our own borders we're pointed to as a model of form and excellence and progress in a very dynamic and exciting way. We can build on those kinds of things. I mean, clearly, we have certain centers of excellence and certain industries: distribution, auto parts, certain agricultural things, service, and transportation centers of excellence. We can pick priorities and focus on our competitive advantages, and this is where we need to accentuate and play to our strengths.

Sylvia Lovely

I just wanted to comment because the kind of discussion that you two are having about the global and the local is something that I've really been struggling with a lot. I do believe it's a basic tenet of our future that our communities have to live by the new rules of the game and there are new 21st century rules of building economic prosperity. But, John, I think of you and I think of Wendell's writings, too, about this.

Wendell Ford

Would you say Wendell Berry?

Sylvia Lovely

Wendell Berry. I'm sorry about that. How important this local piece is and how it's absolutely right that local has to become first. Maybe we're just using the wrong words. When we're talking about building jobs, we have this mentality that you have to attract in jobs. That usually means other folks coming in. There is nothing wrong with that as part of a strategy, but what we never talk about, Kris, is building wealth at the local level. Wealth is a lot of different things, moving all the way from money to quality of life, but build prosperous local wealth in our communities. And I know at the local level people don't think like that. They think in terms of economic development having to be building out in the countryside an industrial park and waiting for something to fall from heaven. I think that would be what I'd advise this Governor. Let's not be talking about numbers of jobs. Let's talk to people at the local level about building their communities in terms of wealth and prosperity in a variety of ways across the board. It may be a little simplistic, but it's where I'm struggling to come to so that I can balance these two things and come to some resolution.



Bill Goodman

No, it's not simplistic. I think that's what is on the minds of so many people, in your minds today. Thanks for stimulating that part of the conversation. Nancy Jo Kemper, you were nodding. Gordon Davies, can you jump in at this point?

Nancy Jo Kemper

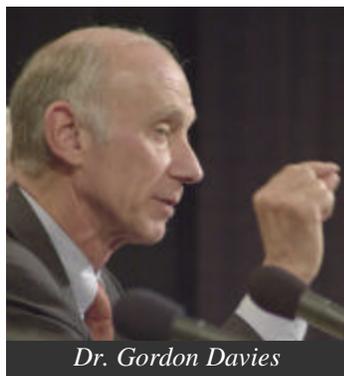
Yes. I think we're not going to have sustainable economies in the future with speed and innovation and all of those things unless, as Sylvia suggested, we help people understand that we are not autonomous individuals and that we depend on and need one another to survive. In fact, there are enormous gifts already present in the community if we can accept and learn to enjoy one another's differences and the challenge that that presents. To build a more exciting Kentucky, I think, you turn people onto the possibilities of their own imaginations and what is potentially right there amongst them. We talk about building on our heritage and resources in this state, and one of our resources is the depth of piety and of commitment to religion, if it can be used in positive ways so that people are engaged with addressing the needs of their neighbor. We cannot move ahead so long as we do not have just economy as well; and the "just" economy is going to be one that has a low base, where everybody cares for their neighbor and there's an opportunity to explore different possibilities within that context. We have nearly a million people in the state functionally illiterate, and 25 percent of our children living in poverty, and most of our old folks as well. We're not going to move ahead if we just leave these people behind. They'll not be a drain on everybody. Instead they have things to give us all.

Bill Goodman

All right. So Nancy Jo Kemper brings in not only the information economy, the knowledge-based economy, and the New Economy, which we're going to talk to Governor Smith about, but the "just" economy. Gordon Davies?

Gordon Davies

Sure. Well, Nancy Jo said some very important things. I'd say to the Governor, "Governor, you already know this," because the Governor's a smart woman and that's why she's Governor. I'd say, "as you said in your speech over in Paducah the other day, the best way to predict the future is to create it," which goes to Mr. Berry's point. If you don't know where you're going, you'll get there, but you have to set a direction and you have to decide what the future is going to be. And then I would say to the Governor, "the reason I hung around here until you got elected was because I know you believe in education." And what education really does is help people develop an adaptive



Dr. Gordon Davies

capacity. A capacity to adapt to the environment needs to be adapted to, Mr. Berry, but also to change the environment when the environment is intolerable. "What we need to do in this government," I would say to the Governor, "is to model the kind of behavior we want, which is a fast behavior, a just behavior, an entrepreneurial behavior," in Kris' words. That goes to developing an educated and skilled workforce, yes, but we don't want to develop that workforce and then hear the tramp of its feet across the bridges into Ohio or Indiana. So we have to create jobs and not just import jobs, but create jobs. That means we need research universities that become the magnets for creation and entrepreneurial activity, the creation of intellectual property that is valuable. Because if we've built institutions of higher learning but 25 percent of the children still live in poverty and a million people still are challenged as to reading and writing, we shall have failed. If at the end of 20 years we haven't changed the conditions within which women and men and their children live in this state, we shall have failed. Very simply, we shall have failed. There is more to educational reform than building strong institutions. They have to have an effect on the society in which we live. I don't buy the distinction, Bill, and maybe you don't even mean to make it, between a New Economy, a knowledge economy, and a just economy. If it is a knowledge economy, it has to be a just economy. To know the good is to do it.

Bill Goodman

Exactly. Let's talk a minute about regionalism. Walter Baker.

Walter Baker

When we look at what we're trying to do in the state, the recommendations that Mr. Kimel is going to make to Governor Smith, where's the power of this intellectual capacity, this just economy? Where's that to be located? Is that from the border? Is there a debate about whether to be concentrated "in the golden triangle?" Is it to be in our smallest rural areas?

Kris Kimel

Hold it. I think it can be almost across this Commonwealth. The expectation is that the golden triangle here in northern Kentucky, Lexington, and Louisville will be the centers because they have driven the economical machines and to some extent the academic engines for the entire Commonwealth. But there is a richness in the geographic diversity of Kentucky that I think we can learn and gain a lot from. I was sitting here listening and we were talking about basically the two things that every Governor has talked about in Twentieth Century Kentucky: jobs and education. Go back when Wendell Ford ran for Governor, or when W. J. Fields in 1927 ran for Governor. Those were the two things that the gubernatorial candidates talked about. And we need to go forward dramatically, not just incrementally, in both of those areas, and we have at times done that in Kentucky.

I look right now across the state and I see things that make me very proud as a Kentuckian and very proud of the direction we're going and they may be small things to many people, but they're large things to others. We have in Munfordville, Kentucky, a very small community outside the golden triangle. We have Davis McCombs, who was recognized a year or two ago as winner of the Yale prize for younger poets. Incidentally, in the last seven years, three of the winners have been Kentuckians. We have in Louisville Kentuckian Sena Jeter Naslund who wrote *Ahab's Wife*, that was recognized last year as one of the great novels written by any American writer. John Berry's brother, Wendell Berry, has been a prolific writer of the agrarian viewpoint; but a national figure, not just a Kentucky or regional figure. So I think in our own way we have a richness in our diversity that we're beginning to recognize and I think will help all of us. If we become merely wealthier, possessing better jobs and some better education, we will not try to move the ball very far in Kentucky. We've got to be deeper. We've got to do as Gordon is trying to do. Let the University of Louisville and the University of Kentucky research universities leap out of the pack and move toward the lead in this nation and in this world. We're competing in a world, not just a nation. These are things that I see that we've got to do. We have to create a climate in this state in which our young people coming along recognize not only our sense of place and our sense of history. But this is an exciting, wonderful Commonwealth in which to live and in which to interact with other people, hopefully in a fairer and more just way than we have in the past 200 years.

Bill Goodman

Betty Bayé, are we creating that atmosphere for all people in the state of Kentucky?

Betty Bayé

Well, no. I subscribe to the notion that you can't know where you're going unless you know where you've been. I'm always interested when we talk about the New Economy to note that there are thousands of people in Kentucky who never participated in the old economy and we're moving on without that. They don't have computers yet. They don't have the Internet. They're not online. We're trying to get more people online. We've looked at the election results and people have talked about how divided the country is in terms of where they think we ought to be going. Well, Kentucky is not divided. Kentucky, to me, has chosen its direction and it's thrown its lot with interests of tax reductions, no matter what it means for the surplus. This is how we voted and how we have thrown our interests. It is sometimes confusing to me as to how Kentucky has this many poor people in it and still we are moving ahead as if we're Silicon Valley or something. That seems to be the political decision that we have made as a state.



Betty Bayé and John Berry, Jr.

I'm not sure what is going to happen to the people who fall through the cracks because we have bought the notion, I suppose, that for those who do not succeed it's because they are failures. I have seen people very much attacking Kentucky's Education Reform to the degree that many African-Americans have decided that segregation was, in fact, better because they've not been able to make it in this new whatever-we're-talking-about. The kids are still failing in the schools. So I don't think Kentucky is divided on where it's going politically. I think we've made our decision as to where we want to go. We don't have to count ballots here to know what happened in the election.

My concern with that is, what does that mean for the people in our state who cannot make it on their own? If the message is a tax break, what is that going to mean for somebody who makes minimum wage? We've thrown our lot with people who are opposed to raising the minimum wage a dollar, or, if we raise it, then let's give something to everybody and let's, in fact, take some people off the table in terms of their ability to make a minimum wage. So, for me, I'm thinking about the old economy. I look out in this room and I hear us talking about diversity, but I don't see diversity here. The decisionmaking is still being made by the people who always made it. We've not done, I think, a good enough job at bringing the people to the table. What has always interested me about this state is the fact that we have so many poor people with so many opportunities for them to see their interests as being similar that base primarily on race. They have decided that they don't have any interests in common and, therefore, they

don't work together enough to pull at the coattails of the economic powers in this state to say "don't forget us, and we can do it together." So excuse me for going backwards, but I'm looking back and asking where we are going in this state. I'm not sure that we've made our decision that we're really talking about those people who have a lot of issues. I don't want to get political. I'm just saying that I think that we have bought into a political philosophy as a state that seems clear to me that we're going to be on a collision course with some people who are talking about justice and economic parity. I've got a feeling that we're going to have a problem doing that.

Bill Goodman

It's not "excuse" you. It's thank you for introducing this part of the discussion and what needs to be talked about because that really is a dilemma that we all face and it may not be spoken of. It's almost a cliché, is it not, to talk about have and have-nots? You went through that wonderful soliloquy and didn't even mention that, but that's what we're talking about, is it not, Ms. Stevenson and Gerald Smith? Are we talking about the people that are left behind? Those who are already left behind and the people that are going to be left behind? How do we reach those people in eastern Kentucky? Jane Stevenson.

Jane Stevenson

I agree totally with Betty. I think she has really hit right on the mark. You know we talk about wanting computers in all the homes when we have thousands of people out there without telephones in their homes. And imagine what a life is like without a telephone when you can't go for a job interview because no one can call and tell you to come. Elderly can't get medical and emergency services because we can't get to a telephone. I think there are so many basic things that we have to address as well as these many others that have been brought up today. We talk about a safe environment. We still have a large problem of spouse abuse. We don't have shelters for women in every county. We don't have easy access for these women to be safe. There are still women who are virtually prisoners in their own homes and that have no one to turn to and nowhere to go. Some of these are very basic things that we have to talk about. We certainly are concerned about health care. Sometimes we don't think about basic things such as dental care. I know women and have worked with women in their 30s who have no teeth. And we think, how could this be? Because they have not had preventive care and their nutrition perhaps has had a part of that. There are just so many basic things like that that we have to address. In our rural areas, it's harder to address some of these issues. The rural parts of Kentucky are so precious to us, so important, yet a lot of time they're left out and we must remember how to include them. One of the things that we need to work on, I think, in our rural areas is building more philanthropy. In this country we have billions of dollars in foundation grants to be given away. Some statistics I recently read is that in our persistently poor counties, and certainly we have those in Kentucky, only 1 percent of those funds from these foundations come back to these rural areas of persistently poor counties. We've got to work on that.

Bill Goodman

Gerald Smith, is there a possibility in all of this conversation about moving forward in the New Economy and the just economy that we are really in danger of enhancing the thought, the idea, and the reality that we're still leaving people behind? That we're really not reaching as many as we need to and that might possibly get even worse than it is today?

Gerald Smith

Yes. I think so. As I sat here, our point of reference has been Governor Smith, and I believe I'm the only one on the panel with the last name Smith. So I'm going to take the prerogative of saying that I'm the first African-American Governor of Kentucky. So, as Governor of Kentucky, I would be very optimistic, but, at the same time, very realistic, especially about some of the things that Ms. Bayé said. Going back to your first question there, in terms of what would you do, I would be very much concerned about the demographics of the state regarding age and education, race and ethnicity, and at the same be very much concerned about what's happening on the local level. We have become, like much of the rest of the nation, very arrogant, callous, insensitive, and materialistic. We have literally forgotten the least of these and, too often, I believe that we speak in generalizations when we talk about education and crime and health care. For example, crime is on the decline in the state, but, by the same token, I think that we need to pay particular attention to those who make up a large part of the criminal justice system. What about those individuals? What is going to be their role in the New Economy in terms of education? So, when we think about these terms, don't forget the other side of the spectrum.



Gerald Smith

Bill Goodman

James Klotter, historian. Where have we been in this state? Do we have any reference point? What are the models that we need to look at? How do you see all of this conversation? What's your input to the citizen thinking panel that is going to make a report to Governor Smith?

James Klotter

Well, I think it was Casey Stengel that said something like, "predictions are hard, especially about the future." So I look at Gerald as Governor Smith and, of course, Governor Smith is a historian, so I didn't aim to tell him all these things, but, in fact, we all should be historians. But, Governor Smith, history tells us that we have to look back at history, but it also tells us that change is constant throughout. We have to produce a generation, and we seem to be producing a generation, that looks forward to change. At the same time as we're doing that, we have to make sure that we honor the past in that generation but that we're not chained to the past and that's what history tells us. If we chain ourselves to the past, if we worship at that shrine, then we will not advance as we need to. At the same time, all the things that are old are not bad; all the things that are new are not good, and we have to determine which of those we need to take with us into this future and which of these are the important things. We have to be in a sense future-minded and history-minded. And I think Mr. Chellgren was saying that we need to know that we're not operating in a vacuum in Kentucky, a kind of an international vacuum. We also make sure that we train people and I think education is a key to all of this. As Gordon said, we have to train people that operate both at the international level and at the national level, but also we train people who can operate at the local level because that's where governance is taking place; that's where the people are affected.

And we have to have this infrastructure so that we can move forward in the New Economy but we also have to determine what are those things, Governor Smith, that make us important, that make us as a state stand out above other places. We have to have some of those entrepreneurial things that Kris said, but we also at the same time have to develop things that we have as strengths and make sure they are our strengths. I think Walter Baker was talking about our literary strengths. People in the nation don't know those things. The quality of life issues can be a real strength, as we move forward, in our tourism. In the future, when we finish training all these people and we've developed these skills, people in our schools should know how to think with perspective and not operate in any kind of vacuum as we move forward. Because change is so rapid all around us, we have to have something to lead us into that change, so that every generation after this generation is the greatest generation.

Bill Goodman

If there are members of the audience who would like to ask a question, pose a comment, and join the conversation, we'll ask you to come to the microphones and we'll take those as best we can. There were comments, I think, from Kris and then Ms. Kemper.

Kris Kimel

I want to go back to something that Gordon Davies said earlier when you were talking about the just society, the knowledge society. I think it's very important from a strategic and philosophical and moral perspective and that is it isn't multiple societies. When we talk about a knowledge society I think implicit in that is certainly that it's just, that it's based on sound values and all the kinds of things that we're thinking about. I think that's important to recognize because one of the things that we often make a mistake about in Kentucky and across this country is we're not talking about one strategy. One strategy will not work. We talk about economic development. We certainly have to have multiple strategies. If you ask Mr. Chellgren about Ashland, I'm sure he's going to tell you that his company has multiple strategies. They don't just have one or two because one size doesn't fit all. And we have to recognize that a strategy for a small high-tech company is not going to be the same as a strategy for Harlan County where my wife happens to be from. I think we need to understand that and that brings us back to this need to talk amongst each other and understand that it's not an either-or situation. Oliver Wendell Holmes said one time that most people go to their graves with the music still inside of them. And I think certainly our goal among all of us, whether we're dealing with technology or religion or education, is to unleash that music and to bring those out of people. And that's going to require a very different approach, I think, than certainly one or two different strategies.

Bill Goodman

Reverend Kemper, then is it more than just an economic problem or is there something larger at work here that we're discussing?

Nancy Jo Kemper

Yes. I think it's the issue of communities, our citizens thinking together about what kind of a Commonwealth we really want to be and what does that mean. Does it mean that we work to make sure that the weakest amongst us has an important place? See, I happen to think that some of the most vulnerable and helpless are given to us to remind us

that all of us at one time or another may be in a position of need. In an instant, any one of us could become helpless and desperately need one another. As we go into this speed and innovation, we're increasingly going towards an isolated kind of individuality, which is destroying us. We've gotten so focused on progress of the individual that we've neglected to look at the progress of community. It was three great virtues that helped found this nation: equality, fraternity and liberty; and it wasn't just liberty. We need to understand our liberties, when it comes to issues such as gun control. Taxes, for example, need some control by the humanizing virtues of equality and fraternity or community to use a more balanced point of view.

I really, though, want to piggyback on something that Ms. Bayé said a moment ago, too, about taxes. I think it's time to start in the present and say that people who take a pledge of no new taxes should be ashamed of themselves. This is not good government. Good government looks at how we generate revenue for the benefit of the whole, and it may mean that we adjust and make changes. When we're taxing our poor at the highest rate in the nation or second highest rate, it doesn't matter almost; it begins to be really offensive. We're not going to make one iota of progress as long as we've got politicians that keep getting elected because they say "no new taxes" and then drive off in their Jaguar. I'm sorry, I won't buy it anymore. (Applause.)

Bill Goodman

This is from a minister who might say, "now you're going to go meddling there," but she crossed that bridge real well. Gordon Davies, you want to say something.

Gordon Davies

You know I just wish Nancy Jo would be forthright and say what she really thinks. She is so wishy-washy. About the notion of multiple strategies, I couldn't agree more with what Kris said. And, somehow, you just have to have it not only both ways but all ways. A good example is the Council on Postsecondary Education, for which I work and on which Senator Baker sits. It has two responsibilities, one of which is to help Kentucky's universities prepare and participate in the New Economy and basically we're in the business of developing intellectual property and we work with Kris Kimel on that. At the same time, the Council has assigned responsibilities for those million people, Nancy, that you mentioned as functionally illiterate. They're like a barbell: it's a little off balance sometimes and it can torque us, but that million people has to come along (a) because it's right, but (b) because it's strategically simply necessary as part of our enlightened self-interest. If we try to move in a state whose population is not increasing into a New Economy with 40 percent of the workforce having difficulties with fundamental literacy, it's like going sailing with your anchor down. You will sail in a circle around your anchor. We can't get free unless we work with that population and especially with the younger part of that population, the part that's in childbearing and child-rearing years. The single greatest predictor of whether a child is ready to read when she comes to school is whether her parents read to her. And the single greatest predictor of whether a child goes to college is whether her parents have had some experience in postsecondary education. And this is not a single-generational issue. Governor Smith, who is Gerald's sister, knows that and needs to constantly, as Governor Patton does, remind people that if we get where we want to get by 2020, we'll reap the benefits of getting there by 2040. That's a pretty extraordinary political perspective, but that's a perspective that's dominating in Kentucky right now, and I hope it remains dominant.

Bill Goodman

Mr. Klotter and then Ms. Bayé.

James Klotter

I was going to say that 2,000 years ago people were recognizing the importance of education. Plato said something like "if you start somebody in one direction, that's the direction his or her whole life will go." A statistic that all Kentuckians probably should be ashamed of is one the Long-Term Policy Center has stressed: that in the last quarter century the income of the top 10 percent of the population in Kentucky, in real dollars, has increased almost a third. The income of the bottom 10 percent in Kentucky in real dollars in that quarter century has gone down by 20 percent. Until we deal with those issues, and deal with education for that element of the population, we're still going to have that anchor, I think.

Betty Bayé

I wanted to say something about education because I've been thinking and writing about this. We're real hung up now on standardized tests and I keep thinking what the outcome is of us stamping kids failures, putting a big F on their head in the third grade, second grade, or fourth grade, because we're testing them all over the place. I'm working on a column about the number of Americans who are ineligible to vote because they're felons. They've been convicted of felonies; fully 13 percent of all African-American men cannot vote. In Florida, I think it's like 31

percent of them were ineligible. But more frightening than those statistics, because you don't have to feel sorry necessarily for felons, is that as we have lowered and lowered the age at which we can try children as adults, we're creating convicted felons at 14 and 13 years old. They've already been disenfranchised. So they can never vote because in our state and other places our laws say that no matter how they turn their lives around, if they've been convicted of a felony, they cannot vote.

So we're saying to 13-year-olds, "You're a little criminal and you are disenfranchised." We are saying to eighth graders, "You cannot pass the standardized test and you're a failure." We can say that it's real liberal and namby-pamby to try to have this multiple strategy we talk about because testing is one strategy, but how does society benefit? This is my question when we are stamping and disenfranchising people as children and saying, "No matter what happens in your life, you are not eligible to vote." So, I mean, it just seems to be that we are setting up a formula because probably that 14-year-old felon was that same third grader who was a failure and couldn't read because they couldn't pass the standardized test. And it's creating this cycle so when we look and find this monster who is now 18 years old, we can predict. We could have predicted what was going to happen and it seems to me that if we can predict then we have to figure out what is the appropriate intervention.

We're now so hung up on testing, testing, testing; and testing like that only benefits the people it's always benefited. They will always do better. They have more resources. They have two-parent families. They have parents who went to higher education. But the challenge is the children we're stamping as failures, children who are going to come through our system, and the children who will grow up to prey on us. It is in our vested self-interest to come up with some kind of strategy that makes sense to bring other people along, because we cannot live in our gated communities and not expect the people to climb the walls. If they have nothing, we will not be safe and this is a big concern of mine. When I looked at those numbers of Americans who are ineligible to vote because they've been convicted of felonies, you can't count their votes because they can't vote.

I think we have a lot to think about and just one last thing. I remember a very well known executive who is no longer in Kentucky who came to the *Courier-Journal* Editorial Board. He said of the people in eastern Kentucky, "Well, why don't they just move? Why don't they just move? If they can't get health care up there, they ought to just move." And it was the most callous statement. That person brought some changes to Kentucky, but they've moved on and those other people are still stuck there. That person came to Kentucky with a certain attitude about what this state was about, about who these people were, and really it was to me a certain contempt. And that's what I'm saying: it's good to bring in new people, but if they have contempt for this state and what they think about it, they may bring some jobs, but they're also going to bring some attitude that's not going to help us to try to push the state forward and all of the people in the state forward.

Bill Goodman

All right. We have a comment from the audience.

Questions, Answers and Comments

Questioner

My name is Pat Delahanty. I'm with the Catholic Conference of Kentucky and to follow up on what Betty is saying, I had written down the word disenfranchised as she began to speak. It might be interesting to people to know that in the state we lock up 4,840 black persons per 100,000 as opposed to 584 white people per 100,000. So, if you're black in the state, you're 8.3 times more likely to be locked up in our institutions. We also run a system where 77 percent of the people that we have in these prisons are there for nonviolent crimes and yet we continue to build prisons. And, instead of developing a New Economy, we hire correctional officers in counties and create those kinds of jobs, which are not even necessary if we really took a look at it. I just wonder what the Governor might do because he can't do this by himself and part of the problem is how you work with a General Assembly.

Bill Goodman

Let's go to Governor Smith for a response on that.

Gerald Smith (as Governor Smith)

I'm not proud of my last name right now. Well, let me say this, just generally speaking, Kentucky is one of those places where for African-Americans, it's very difficult to want to live in this state. It's difficult recruiting African-Americans to this state. Kentucky's a state that's historically been poor and rural, known for its racial violence and discrimination, so there are a lot of prevailing attitudes scattered throughout the state. It doesn't matter whether you live in eastern Kentucky or northern or the Bluegrass Region of the state. And so, it's important, in terms of when you're putting together your Cabinet and working with the General Assembly, that we really speak to this issue in terms of addressing peoples' hearts. In looking at the facts, just get a true sense of how this is affecting the image of

our state. You know, Kentucky is a state that has a lot of pride, resilience, creativity, and imagination on some things and I think we can channel these positive aspects of our state into addressing this kind of problem. It's going to require us to reach beyond the break in the rope. In other words, to step out on faith. When we step out of the box, great things happen, and that's going to require us to do this in terms of dealing with the criminal justice system. You're going to have to give people an opportunity and let them know that that opportunity genuinely exists. When you look around the state, for those who are incarcerated, for many of them, there's never really been an image, a role model, or an idea that an opportunity exists. So it's either give up or get out of the state. And too many African-Americans are choosing to leave the state of Kentucky because of not only the history but because of the reality of what they see in the criminal justice system and educational system, as well as in other issues that affect the state.

Sylvia Lovely

I guess, just to answer that to you, Governor, or your sister if you'd pass along the word. I go back to strong local communities, and even stronger local leadership is going to emerge. For some reason in this state it tends not to be strong. You have the gulf between the golden triangle, Walter, and the rest of the state. The people in that triangle area don't seem to know, and it's really true, I think, that life goes on out in the state. There's just a really big gulf when you talk about some of the great things that are emanating out there. People aren't talking about Louisville and places like that. But I want to also say that I think the whole crisis maybe, that is emerging, this opportunity and crisis at the same time, is globalization as I've heard it called, but global versus the local. It's starting to come in sharper focus. I think one of the scariest statistics we have in this state is the growing gulf between the haves and the have-nots. It threatens to grow even larger as we attempt to go global without paying attention to the local. And that happens to people. At the people level, people don't have computers or whatever, but it's also happening at the community level. I think we have some very threatened communities out there. We had ghost towns at the turn of the last century. Who knows if we will today? It's a different set of circumstances, but you have technologically nonready communities. You have some who are taking up the initiative, like Murray, to do some exciting things locally, but you have others that aren't. And we have schools that are technologically ranking high in the nation but that only encourages our kids to leave those communities faster. Then you have that continuing gulf between the so-called golden triangle and the rest of the state and the bottom line is we don't even tell our stories very well. Whether it be our bad stories or good stories, we don't tell stories in this state and spread the word; and that, Bill, may be in part with the media—no statewide media. There are a lot of issues about connectedness of the state and the lack thereof.

Gerald Smith

I think somebody made reference to partnerships. I think there's a lot of potential there if we maximize that potential, and if we are a little more creative in terms of the kind of partnerships we can create in this state. Too often we focus on the same old resources or go to the same old places, but we need to start looking beyond those areas and thinking of ways we can bring everybody into this New Economy. And I believe partnerships are the way we can do that.

Bill Goodman

All right. Another question from the audience?

Questioner

I'm Richard Heine from Lexington. I'm retired. My comment is a question. What do you all think that you could tell the Governor that would cause Kentucky to feel like it was more together? That is, in order for Kentucky to benefit, all of the citizens of Kentucky have to benefit. We have to have the people in eastern Kentucky raise up their educational level in order for Kentucky to become tenth or something like that. What can you tell the Governor that could be done that would cause Kentucky to feel more like Kentucky in that we're all in this together?

Wendell Ford

I think one thing you could do is what's been done here in northern Kentucky where Campbell, Kenton, Grant, Boone, and Pendleton Counties have all come together. It's one northern Kentucky. It isn't separate counties working independently; they're all together, and I think you can look around this area and see what's occurred when they are together. And when you can get a Democrat and Republican in the Kentucky legislature all going gung-ho for the same thing for this area, then they've got the partnership going. That's what we ought to do. And I can give you an idea how to do it, too. They had districts. They siphon off funds to operate their shop from communities and that's all right. I have no objection to that. I think it's good, but they can be the leverage or the overseer or the pusher of these partnerships locally, somebody to point to that had responsibility. If we get those that say it's your responsibility, and that is the district, they're being paid, they've got a budget and so they're leveraged.

Bill Goodman

Senator Ford, is that only happening here in northern Kentucky? Are there areas of Kentucky in western Kentucky, south central Kentucky that are doing it that we just don't know about?

Wendell Ford

There's some and Sylvia can tell you the other ones. But the one that emerged as the best is the one that came from here and I think we ought to model after it. Look at the airport, the industry coming in, and Ashland Oil moving here. You can begin to look at the positives from this partnership. You have to take into consideration that state government has been important here. This facility we're in, for instance; where did it come from? So you have this partnership and you have to give Frankfort some credit for the positive aspects. I think you have to give it some demerit, not this one particularly, but over time.

Look at Highway 23 in eastern Kentucky. We started long before I was Governor and long after, and I was able to complete one county for \$40 million. So you're putting all the money up there. Well, that's a drag. You've got to be willing. And this tax reform has to be there. Daddy told me in politics they'll tear the hide off you, but there's one thing about it, when it grows back, you're tougher. And so some are going to have to be willing to have the hide taken off in order to make the decisions.

Bill Goodman

All right. Let's go to another question or comment.

Questioner

Thank you. Representative Fred Nesler of Mayfield, Kentucky. The Governor's getting some good advice from this good panel. I would ask the panel to be considerate about giving the Governor advice about crime, and crime is down in many areas and in many ways. But let's not forget what the drug abuse is doing to our young people and to our communities. Also, of course, what has been mentioned today about domestic violence and child abuse growing, certainly not going down. One other comment, if I may; we all agree that education is the foundation and the stepping stone regarding nearly anything in the spectrum. Any suggestion that has been brought up today, basically the success or failure of that will be in regard to education. I'd be interested in knowing what you advise the Governor to do with regard to elementary education, early childhood development and children of that early age. Because of the global economy and the amount of money that people with higher education make, what would it do to our educational system if we compensated our teachers more in Kentucky for the good job that they are already doing? Thank you.

Nancy Jo Kemper

Well, I think that's a good place to start. If we want to solve the crime problem, do something about getting people more involved in their communities, and teach them truly that education pays, we would abolish the lottery tomorrow. We would stop teaching our people that life is luck. That's what the state is suddenly in the business of doing. By the year 2020, most lotteries are going to be gone because of corruption, one thing or another, but if we continue to try to find new ways to entice people to believe that life is luck, we're never going to get anywhere. And they will continue then to say, "Well, if life's luck, then why not just go out here and get stoned. If life is luck and fate, why not just take somebody's gold chain off their neck or their tennis shoes out of their locker? If life is luck, then why bother to learn at grade school? Why work to become a teacher that might make a difference in people's lives?" That's not what life's about and we need to be focused on helping people understand that life's about our community.

Bill Goodman

Gordon Davies, what about the education questions and teacher pay?

Gordon Davies

Well, I agree with Fred Nesler. We're not going to get where we want to get in Kentucky unless we increase the salaries of teachers and here I want to start talking about teachers from preschool all the way through graduate school. We tend to think that K-12 people are teachers and university people are faculty, so the faculty can say to the teachers, "We trained you so how dare you tell us what to do?" But, in fact, it's a spectrum and I think it's as true about elementary schools in Kentucky as it is about the University of Kentucky that every single one of them has to increase the faculty salaries. The University of Kentucky salaries for full professors are \$18,000 lower than the University of Virginia's. Now that's a lot of money. That can tempt you to move over the mountains. And that's true about elementary salaries, too. That doesn't necessarily mean you've got to spend more money on education, but it does mean you have to spend the money you have on education very differently than you do.

Questioner

I'm Katherine Bickel with the University of Kentucky Lexington Community College. We've spoken a lot today about bridging the digital divide and reaching the people who don't have computers, who aren't computer literate, and who often can't read. There was a unique event this summer that Kris Kimel's organization hosted called "The Idea Festival" that reached out to a lot of people. If Kris can talk about that today, maybe some of these kinds of events would reach out throughout Kentucky and this would be some way to address people that don't normally know about this kind of innovation and things that we're talking about.

Kris Kimel

I appreciate that comment. Basically we, along with a lot of other groups and companies, put together what's called "The Idea Festival," which was held in Lexington. Actually it was even international, to provide a forum for people to exchange ideas and innovation about different fields. We oftentimes just talk to each other and we don't have an opportunity to explore important ideas which can lead to solutions to problems. From educators talking to scientists, entrepreneurs talking to people involved in human rights work, artists talking to other kinds of people, that was the basic gist behind it.

Questioner

Jeanne Hibberd from Berea. You were talking about low teacher pay, but we have a lot of people who work full-time and still can't afford to live. So I wanted to propose something to the panel and get your response. What if we agree to pay, if we really value education, a livable wage to anybody who graduated from high school or who got a GED? Would that lead us in the direction we're trying to go?

Bill Goodman

Walter Baker, can you make a comment on that, please, sir?

Walter Baker

Well, I'm not sure that the government can guarantee a wage to every citizen. I think there's a role for government in providing incentives for people to be better educated. I discussed one time with Governor Patton the possibility that we give a stipend to those Kentuckians who are working on a GED. If they will continue working on the GED and try to get it, we give them an economic incentive to do that and I think that may be the direction we might go on things like that.

Bill Goodman

Anyone else on that particular issue? We'll go back to the audience and another question or comment.

Questioner

Very quickly. David Clark, Lexington, Kentucky. Regarding our preferred vision for the future, I'm sure that you all represent different parts of the state here. What are you hearing from the citizenry as far as what they want maybe in different regions of the state for the future? We're talking about what we think should happen a lot. What are you hearing from our people of Kentucky? Are they wanting to get into the digital age? Are they wanting to immerse in the new technology? What are you all hearing?

Bill Goodman

Walter Baker, what are they talking about at the drugstore in Glasgow? Are they talking about the digital divide? Or from other parts of Henry County, Mr. Berry? Or from western Kentucky, Mr. Ford? In the cities, Sylvia Lovely?

William Baker

Well, we're talking about votes in Florida right now. (Laughter) I think there is a great thirst throughout this Commonwealth for education. In Glasgow we're in the construction phase of the new postsecondary education center that will be there. We'll have approximately 2,500 students starting out. And the same thing is duplicated around the Commonwealth and outside the golden triangle. This is going on and I think that is all for the good. One word of caution I would give Gerald Smith's sister as she embarks upon her governorship. With all of the impetus that should go to education as a vehicle for creating better jobs for our Kentuckians, we ought not overlook the civilizing effect of education and that aspect of education that makes us better individuals and a better society. Sometimes I have a fear that we want to train people to make better widgets, but we're not willing to train them to be better citizens.

Bill Goodman

We're going to begin to ask for your closing comments. Mr. Berry, you've been awfully quiet and very attentive. I can almost hear everything working up there.

John Berry

Well, I've learned a lot. I mean that sincerely and to some extent facetiously as well. I think, if I were giving advice to Governor Smith, I would echo some of the things that have been said about the people that have been left behind. People are stigmatized because they flunked the third grade or got in trouble when they were teenagers, because of their color or the part of the state they're from, or because they happen to be farmers. It's the Governor's responsibility, as it is other leaders, to affect attitudes and what we think about people is in large part based on the examples we see.

I think that I would have to say to the Governor, "If you're going to plan in any of these areas of policy for the future, Governor, for instance, with agriculture, you ought to say what your vision is for rural Kentucky and rural America 50 years from now. What would you like to see? And if you don't have an opinion, have you maintained a dialogue with the people that's sufficient to know what they think about it? And if they don't have an opinion, you should prepare yourself to lead in that direction and you need to ask yourself questions like, 'Who do you want to produce the food and fiber of this state and this nation? Do family farms and farm families have a role and are they worth saving? Are rural communities worth saving?' Find out what the people think about that and at least that ought to be a part of the dialogue and the political debate. And if you think that there are policies either in this state or the nation that stand between you and the accomplishment of that vision, then take a leadership role to do something about it. Don't just accept it and try to make the best of a bad situation, but take the responsibility to lead."

I don't want to dominate this segment, but I do want to say one other thing. There is a group of people that I think has been left behind. There are people out there who have jobs and who only want to make enough to adequately support their families. They don't want it all. They don't want to be millionaires or billionaires. They are good parents. They're good marriage partners. They're good citizens. They're good neighbors. They support their communities. They're mutually dependent and dependable. What role is there for them in this big race to see who can achieve the technological accomplishment first or to see who can be the biggest hog in the world? We need to make a place for these people that are satisfied with enough and not accommodate the wishes of those who want it all.

Bill Goodman

Mr. Chellgren, do we have the will? Do we have the capacity to do what needs to be done in this state?

Paul Chellgren

There are probably better people on the panel to respond to that than I, those who are more involved in public sector life than private sector. I'm optimistic about Kentucky and I've been here essentially all my life in and out. I feel about as optimistic as I have for a number of reasons: the public will, the general recognition of the opportunities we have, and the needs we have. And also for the issues that have been raised by many of the panelists about those groups that have been left behind and a sense of responsibility, obligation, and opportunity for them. I think we've got a very exciting opportunity.

Bill Goodman

Let me turn to Mr. Klotter very quickly.

James Klotter

Very quickly, if we want to deal with the state, all we have to do is do what they said in the novel *To Kill a Mockingbird*: walk in somebody's shoes, and you will understand them. If we understand the other people and their problems, then we can deal with them.

Bill Goodman

Kris Kimel, we've got a few seconds for you and not enough time for you to sum up. What are your final comments and what's your report going to say?

Kris Kimel

I would be presumptuous to try to summarize what these great minds have thought of up here and talked about. If I had to summarize, it would be that we are certainly one state; all of these aspects have to be taken in their totality. I often say that, in today's world, people can live and work anywhere, which is a great opportunity for places like

Kentucky, but the biggest threat is that people can live and work anywhere and, if you don't have your act together completely, they will choose somewhere else.

Bill Goodman

Sylvia Lovely?

Sylvia Lovely

Just very quickly. I think, in answer to an earlier question, there's a buzz in the urban areas. There's some desperation, I think, in our rural areas. There's desperation among various kinds of people in all areas. I think the leadership issue for this Governor is going to be to lead those desperate agendas. And that will not be easy to continue on with good leadership.

Bill Goodman

I want to thank the panel for participating today. I want to thank the audience for their questions and comments and we want to thank you for watching. For KET, I'm Bill Goodman.

INTRODUCTION

Daniel Hall

Chair

Kentucky Long-Term Policy Research Center

Again, I would like to thank each of you for coming this morning. We've had a wonderful conference so far, and we're really delighted with KET for putting on the last session. When I saw the number of panelists up there, I said, how in the world is this going to work? But Bill Goodman did an excellent job of moderating and giving everyone an opportunity to have input. (Applause) We've had a few more legislators come in since we started this morning, so for any members of the General Assembly who are in the audience, if you would stand to be recognized. (Applause) Thank you.

My task now is to introduce our luncheon speaker who is a native of Louisville. Dr. C. Eugene Steuerle is a Senior Fellow with the highly respected Urban Institute, based in Washington, D.C. At the Institute, he has conducted extensive research on budget and tax policy, Social Security, charitable sector issues, health care, and welfare reform. Dr. Steuerle is the author of a weekly column, *Economic Perspective*, for *Textnotes* magazine. He has authored nine books, over 125 reports and articles, 500 columns and 45 Congressional testimonies or reports. Earlier in his career, he served in various positions in the Treasury Department under four different Presidents and was eventually appointed Deputy Assistant Secretary for the Treasury for Text Analysts. Between 1984 and 1986, he served as Economic Coordinator and original organizer of President Reagan's administration's tax reform effort.

Dr. Steuerle has had great impact on major changes in our tax laws and the principal improvements in tax compliance and administration. Dr. Steuerle has also served as Chair of the Technical Panel advising Social Security and has recently served as either an advisor, consultant, or board member for the National Commission on Retirement Policy, the U.S. General Accounting Offices, Advisory Panel on Social Security, the American Tax Policy Institute, the Joint Committee on Taxation, the U.S. Senate Finance Committee and House Ways and Means Committee, the International Monetary Fund, the IRS, the Entitlement Commission, the Department of Labor, the National Commission on Children, a technical panel on the Social Security Advisory Council, the National Committee on Aging, and I could go on and on. As a member of the International Monetary Fund, Fiscal Affairs Advisory Committee, Dr. Steuerle has undertaken tax assistance missions to China and has also assisted the government of Barbados in a tax reform effort. His previous positions include being a Federal Executive Fellow at the Brookings Institute, a Resident Fellow at the American Enterprise Institute and President of the National Economists Club Education Foundation. He is frequently cited in newspapers and magazines around the country, including *The New York Times*, *The Washington Post*, *The Economist*, *Newsweek*, *Business Week*, *The Wall Street Journal*, *U.S.A. Today*, *Financial Times*, and *The Philadelphia Enquirer*, and he has appeared countless times on TV and radio networks such as CNN, ABC, and NPR. He informs me that he graduated from St. Xavier High School in Louisville, Kentucky. He got his undergraduate degree at the University of Dayton and his graduate degree at The University of Wisconsin. All Kentuckians should take great pride in Dr. Steuerle's many professional accomplishments, as well as his national and international influence in public policy. Please join me in welcoming Dr. Steuerle. (Applause)

Keynote Address

Dr. C. Eugene Steuerle

Senior Fellow
Urban Institute, Washington, D.C.

Thank you for that very kind introduction. I am always reminded every time I come back to Kentucky how extraordinarily civil and polite people are. I remember one time when I was sitting in National Airport, for those of you a little older, not far from Howard Cossell, who at the time had a gigantic smirk on his face. I was noticing how impolitic or impolite everyone was; no one smiled at anybody. I remember the mood change when I was walking into the Louisville Airport as I arrived in Kentucky and these strangers were coming up to me and saying, “Hi, how are you doing?”

I was reminded again of that as I saw this last panel dealing with some very difficult problems, but dealing with it in an extremely civilized and a very intelligent fashion. In fact, I’m forewarned a little bit by something my father said. He said, “Whatever you do, when you speak before a highly intelligent crowd, don’t make that error that that University professor did when he stood before his class and said, ‘We’re going to begin this class with a prayer.’ And the prayer went something like this; ‘Dear God, please protect us from the sin of intellectual arrogance, which, for your purposes, means the following.’”(Laughter)

Well, it’s a very interesting time we’re in. I think it’s not just the beginning of a new century. I think even the presidential election indicates how interesting the time is; in some sense, by indicating how uncertain we are of where we’re going and how we are going to get there. Now, I don’t want to exaggerate the tension that’s caused as we wait for the outcome of the election. George Bernard Shaw once stated that the press can’t distinguish between an automobile accident and the end of civilization. But it is a time, I think, in which we are searching for that meaning. Where are we really headed?

Admittedly it’s arbitrary that we just turned the year 2000. It’s an arbitrary year but I think it’s a time in which society often has reflection of where it’s going. If you look back to the end of the last century, the closing of the frontier and a lot of other things, you’ll see a lot of similar pauses before stepping forward that society tried to make. I’m going to focus mainly today on national budget issues and how I think they are affecting the choices we’re making. I think they added confusion in part to the past election, and then I’m going to end with some reflections on how this affects state and local policy as well. In particular, what my focus is going to be on is what I’m going to call “an upside-down budget.”

And what do I mean by “an upside-down budget?” Well, like any age, our society is beset with many unique problems. They’re not necessarily worse than those we had in the past. We’re not confronted with war and depression. I’m not making a claim they’re worse than we had in the past, but they are problems.

They’re unique problems. Listening to the last panel and the problems that they listed as the problems of Kentucky they want to deal with, I heard drugs a couple of times. I heard education at least a dozen times brought up. I heard crime several times. I heard the number of prisoners who are incarcerated as being an issue for several people.

Certainly, one that a lot of my colleagues of the Urban Institute list is that we have a very large number of children in poverty and little gains in educational achievement. This is not just in this state, but across the nation relative to what we might have thought we could do over the last 10 or 20 years. Those are the problems people often bring up. When I appear before an audience like this, I’ll often ask them and those are the things they’ll bring up, but I’ll take advantage of the panel already having covered them to say that that’s likely to be the types of things that would be on your list, too.

But let me tell you what I never hear as being on people’s list of problems: as a society, we’re getting healthier. People don’t say that’s a problem for our society. We’re living longer. That’s really tough. Or even, we’ve gotten to a point where we have sustainable population growth. People don’t list better health or longer lives as being problems. But, for some reasons unique to industrial democracies—and it’s not just the United States—at this stage of

development, we've managed somehow to turn our societal gains, this better health, this longer living into our budget problems.

In our societal weaknesses, the things we think we need to confront into problems, we say we can't address, at least budgetarily. There's no money to deal with them. It's this remarkable set of circumstances, an upside-down budget, that is scheduled to devote increasingly smaller shares of our society's resources to our greatest needs and increasingly larger shares of resources to these areas where we're getting better off as a society. That is narrowly defined as the "Social Security" debate, and I say narrowly defined because as I go through this talk, I'll try to point out why I think that's somewhat of a misleading notion.

Maybe I can clarify what I mean by referring to a dream I have sometimes. Often when I'm in Washington, I'm sitting in the Ways and Means Committee room, occasionally testifying, often just sitting in the back and listening, and, in this dream, someone comes in from the National Institutes of Health and shouts, "Eureka! I have found this cure, though expensive, for cancer." All the people in the audience are celebrating because they're happy. They're thinking of sick relatives that might be better off. They're thinking of the longer lives they're going to have. They're quite happy with this announcement. And then, I look up behind the dais of the podium at the members of Congress, and they're all sweating and wiping their brows and commiserating among themselves. And I ask myself in this dream, "What's happening?" All of a sudden it hits me. Oh, my gosh, if people live longer and there's expensive health care, the Medicare budget is going to be even more imbalanced. The Social Security budget is going to be even further out of kilter. What are we going to be able to do to deal with this horrible budgetary problem?

That's, in part, what is actually going on with the government's budget. But someone in the last panel said, "To know where we're going, somehow or another we have to know a little about history." So let me start with a graph. This shows you roughly the history of government, the federal government expenditure policy throughout the post-World War II period. It covers from 1950 up to about the current day. What's quite clear on there, if you look at it, is that we start off in 1950 spending about 5 or 10 percent of federal expenditures in the area of retirement and health. We made a decision in the latter half of the 20th century, actually a little earlier, but mainly in the latter half of the 20th century, that as we got richer as a society, we would spend substantial amounts of our increased resources on retirement and health care. That's a decision we made as a society, and the path of growth is reflected there in health, Medicare, other retirement disability, things like military retirement and civil service retirement and OSDI (just another name for Social Security). So we made this decision to get on this path and you'll notice we've been on that path for 50 years.

You also notice that we're still on that path. These issues of Social Security and Medicare expenses are not issues that are just waiting for the baby boomers to retire. That's a path we've been on for 50 years. As I will cover a little more later, it's a path we continue to be on and in fact that path even accelerates. What you can see, as these retirement and health areas grow, they have an impact on other parts of the budget. But I don't want to mislead you and think that it's only the federal government, some naughty group of policymakers that decide what the government will spend. This was a societal decision. Let's devote more of our resources to more leisure and retirement and to better health care. Those are the things we want now that we are a richer society. This shows you that in the private sector, there was a similar phenomenon. It shows you, in this case, some player contributions to retirement and health plans, which start off as being relatively modest about 1950 and grow quite remarkably into about the mid-'80s. You'll notice, by the way, that, when you get in the mid-'80s, all of a sudden employers start to slow down this growth, unlike the federal government. That's in part because employers provide more and more in the way of pension and health benefits. They eventually feel pressure upon what they can pay in cash wages, so you'll see in some cases pension and profit sharing actually declining, in terms of employer contributions, or leveling out. Health care is not quite leveling out yet, but attempts to adopt HMOs and preferred organizations and all these other efforts reflect this attempt to try to get this growth at least somewhat under control. So it's a societal decision we've made that we're going to contribute more and more to retirement and health, but, at some point, as reflected in the private sector, that growth can't continually grow faster than the economy as a whole. One prediction I'll make for you is that the percentage of GDP spent, or the percent of our national income spent, on retirement and health will not grow forever, that it will not exceed 100 percent. As an economist, I can guarantee at least that much.

This path actually shows you what's happening to taxes. Interesting enough, we've increased this amount of resources spent on retirement and health with very little in the way of tax increases, at least at the federal level. Federal taxes, if you will look at the grand total at the top, stay relatively constant as a percentage of GDP. Now, actually, they're at a postwar high. So I'm not trying to take a liberal or conservative view here. They're slightly at a



Dr. C. Eugene Steuerle

postwar high, but they're not that much higher than they were before. So if we go backwards here, just a second, and want to know what's helping pay for it, you can see that in large part, instead of having tax increases to pay for retirement and health, in the federal government we have this remarkable decline in military spending. As a percentage of GDP, military spending post-Korea was about 13 percent of GDP. Today, it's about 3 percent and 10 percent will soon be about a trillion dollars; that is, our GDP, our national income, is close to \$10 trillion. So what we have been able to do at the federal level is this remarkable transfer annually of about a trillion dollars of military spending off to the domestic side of the budget without having to increase average tax rates, and most of that money went into retirement and health.

Now, this actually shows you that the tax that we're projecting for the future doesn't look like it's going to be much higher. The bottom line there shows you what Governor Bush has proposed as a tax cut. The top line, the little dotted line, shows you what the Clinton administration proposed, which is probably somewhat similar to what Vice President Gore proposed in the way of a tax cut. It shows you the average tax rate, at least in the near future, is not projected to change at the federal level. So this raises some interesting questions. This retirement and health has been going up and up as a percentage of GDP, and defense has been coming down and down. We're not paying for it through more and more taxes as the percentage of GDP, so something's got to give and a lot of the budget pressures you see in Washington, despite the notion that we have this temporary surplus, reflect that very tension. How do you keep this growing line growing, if that's what we're promising, without having an impact upon everything else? Now there's another way this issue plays out at the federal level, which I think is very interesting, and that is the extent of the federal budget that is called mandatory. Mandatory spending is that spending that does not go through a discretionary process. Those legislators that are here well know the difference between those things that happen automatically every year and that part of their budgets that occur automatically.

This is the federal government. This is the Clinton administration proposal as of about a year ago, but it doesn't matter, since the Republican proposals are about the same. As long as we keep these mandatory programs, which are largely Social Security and Medicare, growing, the discretionary side of the budget continually declines as a percentage of GDP. And even the budget projections used by the Congressional Budget Office and the Office of Management and Budget and all these federal budget offices help pay for this mandatory growth by assuming that the discretionary side of the budget continues to decline as a percentage of GDP. Now sometimes they say it goes up with inflation, but think about it. If your discretionary budget only goes up with inflation and your discretionary budget is paying for military, or it's paying to give aid to students who are hiring teachers and colleges like that, what happens?

Well, if you're not growing as fast as GDP, or as per capita as GDP, something's got to give with that military budget. Think of the military budget as largely payment to soldiers and sailors. It's not mainly hardware and, even if it is hardware, it's mainly payment to scientists and other people working these firms, payments to people. If your growth in that budget is not growing as fast as the average wage rate and the economy, then you're going to continually reduce the pay to these soldiers, sailors, and educators, at least through these scholarships, or you're going to decrease the number of soldiers and sailors and educators that you buy. That's just what's going to happen if your discretionary budget constantly declines as a percent of GDP. So that's the budget that the federal government operates under. That's when you hear these debates over whether they're going to increase or decrease things. That's what they call the baseline off of which they operate.

Now most people believe this is just not rational or feasible. At some point, discretionary spending can't constantly decrease. As you'll see there, domestic discretionary spending hasn't quite taken the hard hit that it could take, and that is again because a lot of that drop in the discretionary budget historically was in this military budget which used to be a large portion of the domestic discretionary budget.

This shows you the same graph in a slightly different way. There you see Social Security, Medicare and Medicaid increasing. If you look down, you see defense and international spending paying for it. Look what happens to other domestic spending. It's interesting to see that other domestic expenditures of the federal government have been in decline since the heyday in what administration? Richard Nixon. That's right. Other domestic spending was in its heyday in the era of Richard Nixon and has been roughly in decline ever since then, and you see the net interest showing some of the debate deficits. Now if you ask me what primary reform is needed in Social Security and more generally in programs for the elderly, it is nothing more than the creation of fiscal slack. What do I mean by fiscal slack? I mean basically that governments, just like households, need to be able to have resources in future years which they have not allocated today.

What happens with this entitlement budget is, by putting into these programs so much built-in growth, we put into motion a set of policies that are then very hard to overturn. That raises all sorts of political hassle because cutting back on them becomes then a cutback in what people believe are promises made to them. Basically, if the federal government now wants to do things in a lot of domestic areas, they have to get this entitlement budget under control.

Now, I'm skipping over somewhat lightly here the fact that we have this current period of federal surplus. It is a temporary period. All projections show it to be temporary. It's temporary because what's happening essentially is

that there is a group of people, birth generation in World War II and the depression, which is a small birth cohort, that has entered the ranks of the elderly. The baby boomers are still in the working age population. However, when the baby boomers start moving into retirement population, that's where this growth in Social Security and Medicare and Medicaid really start taking off far beyond the rates that we see here.

And the debate over spending the surplus, mind you, is the surplus that's projected for future years. Having a surplus for future years has been the normal course of any householder, any government, throughout the history of this nation. It's only been in the last 10 or 20 years that we've come to believe that we should spend today all the revenues that we will have available over the next 10 or 20 or 30 years and decide today what those needs are. That's reducing our flexibility.

Imagine if you and your job assume that you would get 3 percent wage growth every year for the next 10 years. That means that in 10 or 12 years, you might have 50 percent more in the way of your wages. Do you sign contracts today for the house you're going to have 15 years from now, the cars you're going to buy, the trips around the world, the trips to the next states, or wherever you vacation? No. You wait and you see a little bit what to do.

What's happened at the federal level is the policymakers have got in this gigantic debate on both sides as soon as any inkling of some future revenues appear like they are going to be available. How do we spend them 10 or 20 years from now? And, in fact, if you look closely at the budget, we've decided how we're going to spend our budget 200 years from now. The entire revenues of the government have already been pre-spent under current government policy. Imagine if our founding fathers had set a policy in 1789 as to what we'd spend in the year 2000. We'd find it ludicrous, but that's exactly the type of budget we have now.

Again, despite this temporary reprieve during the next 10 or 15 years, why do we want to decide today what we're going to spend 10 years from now if we don't fully know what those needs are? I'm reminded of a delegate at the Constitutional Convention who moved that, as part of the Constitution, the United States should not have a standing army of more than 5,000 troops at any one point in time. George Washington apparently leaned over to one of his fellow delegates and said that he could support that amendment to the Constitution only if it was further amended to read that no foreign army would invade with more than 3,000 troops. (Laughter)

All right, I'm going to give you a little test, just to give you a little break here. Given what I've shown you about the budget and the history of the budget, I wonder if anyone might want to venture who were the biggest spending domestic presidents? Who were the presidents under whose tenure the domestic budget of the United States increased the most? Here's the measure I'm using: the percent of GDP spent on domestic policy at the end of the President's term minus the percent of GDP spent on the President's policy at the beginning of the term. Anyone want to take a guess? Who are among the top five? Nixon. Nixon's right. Nixon is number one, with more increase in spending than any president in our history. In fact, about 40 percent of all the growth in domestic spending in our entire nation's history took place under Richard Nixon. Anybody else? Reagan's down at the bottom. LBJ is in the middle.

Think about it. What did I say paid for the domestic spending increase mainly? What part of the budget went in decline? Under whose tenure did military go into decline? Somebody say Ike? Ike's way up there. George Bush the first is one of them. Think of who got to spend the peace dividends, post World War II? Harry Truman. Post-Vietnam? Richard Nixon. Post-Cold War? George Bush. Post-Korea? Eisenhower. So if you rank the presidents by who's up there, you'll see that four of the top five are Republicans, interestingly enough. And, down at the bottom, we have an interesting mix of Ronald Reagan and Franklin Delano Roosevelt.

Now I usually get chastised for putting Franklin Roosevelt down here because most people note what happened is exactly the flip side of my military story in later years. The government turned from fighting the depression to fighting World War II. I think the expression people used was that Franklin Roosevelt went from "Dr. Feel Good" to "Dr. Win the War." But I think that's missing another part of the story, because think about what most of the domestic expenditures were under Franklin Roosevelt. Most of them were attacking the problem of the day. They were not spending for 20 years or 30 years from that day. They were attacking the problem of unemployed people.

Now you may agree or disagree with whether those policies were good policies and actually it's a mixed record among most economists whether a lot of them were. A lot of economists believe the major problem was monetary policy, but the spending was directed to the problem of the day. And, when that unemployment went away, it wasn't necessarily that we had to spend more on the military that forced the Congress to cut on all these programs. The programs automatically cut back on themselves because, in effect, the workers programs that had been created essentially were retracted in terms of value. So there is a difference. It's not just whether one wants to spend more. It's not just the issue that's been classically defined as the liberal/conservative debate. It's whether one wants to determine spending tomorrow by what we know today or whether one wants to leave some flexibility tomorrow for the purposes and the needs of tomorrow. We could still spend the same amount. We could have the same size government 10 or 20 years from now, but there's a difference between whether we decide 10 or 20 years from now what that spending will be and what extent we decided today. And right now we've decided that it's going to be largely through this growth in retirement and health policy.

Here's just a little graph that actually shows you when huge domestic outlays took place roughly during the period from 1946-1973. The reason I bring that up is because we often think of budget fights at the federal level starting about the mid-'70s and there's a real nostalgia for this postwar period where we largely spent a good deal of this peace dividend. You could see that remarkable growth. You could also see that that type of growth in domestic spending just simply could not continue.

Well, let me move on now. This is a little more technical here. People ask me, "What is it about these old-age programs? I mean, I'm not someone who doesn't like Social Security. I'm not someone who doesn't like Medicare. I think they've done remarkable good for our population, but what is it about these programs that have this built-in growth?" Well, there's basically four technical ways in which these programs grow that do not apply to most other programs of federal or state governments. One is there's perpetual growth in annual benefits required of retirees. Two, there's longer retirement spans. Three, it has to do with the demographics. We just have fewer children, and that means there are fewer workers coming along to pay for these programs. And the final one is opened subsidies for health care.

I don't have any graphs of the last one, so I'm going to cover the last one first. It's sort of an interesting phenomenon if you again go back to this history of health in the United States. Basically, the federal, state, and local governments adopted a health care policy, which largely modeled after private policies that were adopted in the late 1920s and early 1930s when some of these early health policies came on board.

Remember, health insurance is a very, very modern phenomenon. People did not have health insurance. They might have had a doctor in the firm, if they were lucky, at the end of the 19th century, but it's a 20th century phenomenon, even the development of health insurance. And what did we want to do? We wanted to provide everybody with all the health care that's available to have. So we set up these insurance policies that essentially were designed so that, when you and I go to the doctor, we bargain over what everybody else will pay, whether it's the federal government or the private systems. In the private system, you and I go to the doctor with a need, and ask if we can take care of it. Other people who pay into the insurance policy will essentially cover the cost and, if we're in Medicare or Medicaid, we bargain with the doctor over what everybody else will pay.

When health care was a small percent of GDP, a small percent of the economy, it was doable, but this is not a question of whether that's desirable or whether we like it. From an economic standpoint, when there's no price to be paid, when there's nobody in the system to control costs, it has enormous incentives for health costs to keep rising. Because, at zero price, aren't we always going to demand more and more health care as it comes along? It also leads to an interesting development in the health industries because it leads them more towards what is often called "cost-increasing technology," as opposed to other strong technological sectors. Our health sector, by the way, is one of the strongest sectors in the United States. It's one of its great strengths, but other technological sectors have more cost-decreasing technology than you find in health care. So open-ended subsidies for health care are a tension that nobody has really quite solved. We keep trying things like HMOs and provider organizations at the private level, and the federal government often attempts to try to do the same things.

What they're trying to do is create an intermediary to try to have some economic incentive to control costs. You'll even find that the federal government has made a lot of proposals this way to states. President Clinton a few years ago proposed that Congress give a capped amount of Medicaid to the states. It would be like a voucher that you would get for the number of poor people you have, but then you, the state, get to be the lucky ones to figure how to get that cost under control because the federal government hasn't figured out how to do it. That did not pass Congress but that's an example of all these attempts—vouchers, fixed payments per states, HMOs, PPOs—to create some intermediary to keep that health cost under control.

What happens with an open-ended subsidy, though, is that we keep buying everything that's new in health care that comes along and that adds to this remarkable growth in health costs that we haven't quite figured out how to get under control. Now, in these other areas, I mentioned that there's perpetual growth in annual benefit. This just shows you one aspect for low-wage, medium-wage, and high-wage persons and Social Security of how this growth takes place. Essentially, Social Security operates as following. If you're scheduled, over your lifetime, to make 50 percent more than your parents, you're scheduled on an annual basis to get 50 percent more benefits. So if they're getting, on average, \$15,000 in Social Security benefits and you're the next generation coming along making 50 percent more, you're scheduled to make \$22,500 in benefits on an annual basis, and on and on, ad infinitum. In some ways, that's not an unreasonable goal. That's a goal that, as we get richer, we keep getting the same percent of our wages replaced as we get older.

But, mind you, we don't do that again for military pay. We don't automatically say 30 years from now the military will have to have the wage increases of everybody else, so let's have automatic wage growth in military pay. Let's have automatic growth in education pay. Let's have automatic growth in civil service pay. Let's grow everything as the economy grows. We don't do that in other programs. We only do it in Social Security, thus leading to this type of growth, which keeps us constant as a percent of GDP.

Second, what happens in these old age retirement programs is life expectancy at the average retirement age keeps going up. We're living about five years longer. We're retiring about five years earlier. In fact, now the

average adult retires for about a third of his or her adult life, and, when we retire, we do two things. One, we go into the beneficiary population often. That's placing a burden upon other taxpayers, but the other thing that's equally important and something you need to think about at the state and local level, when we have these many retirees relative to workers, we actually also decrease the taxpaying population.

This shows you what happens to the labor force. Let me move quickly through this. This shows you that men have been dropping out of the labor force like mad since about 1948. This is a nonemployment rate. This is the percentage of males who are unemployed, but what's really saved us over the last 30 or 40 years has been the remarkable increase in female labor force participation. That's saved us some of the effects of demography. However, as you move into the future, the total goes in reverse. So we've really scheduled a remarkable turnaround from our past economy in terms of more and more adults being employed to smaller and smaller percentages of adults being employed in the future. This is just another take on this labor force issue. This shows you men with 16 years of life expectancy and how many of them used to work. In 1940, when Social Security first started benefits, almost 85 percent of males with 16 years of life expectancy were working at that time. At that time if you had 16 years of life expectancy you were about age 60. Today, of men age 65, with 16 years of life expectancy, only about one third of them work. This is just a little bit of evidence that what we're buying, as I indicated, is more and more goods in retirement, but we're also buying more and more leisure time in terms of years of retirement, even relative to people who used to be able to work.

In this graph you just looked at, the right-hand column shows you how this adds up. Now, if you take more and more years of life expectancy and you add that to the annual benefit growth, it shows you that a typical, average-wage, one-earner couple—two-earner couples come out about the same today—gets a little over a quarter million dollars in Social Security benefits. Why is that? It is because the benefits are scheduled. For an average couple, the longer living of the two will live about 25 years, so that's 25 years of payments under Social Security. It builds up to \$275,000. The annual benefits are not that high, but it grows to that. By 2030, it grows to \$400,000. When you add on Medicare, we've got even worse growth in terms of getting costs under control. And you get pretty close to the point where in the near future just for average wage couples, we're promising close to a million dollars in Social Security and Medicare benefits.

Again, think of what we're willing to pay for these other societal problems that we talked about earlier, say for a typical couple with children and some of their needs, and then think about what we're thinking about scheduling for the future in terms of these annual benefits. But, all these annual benefits, this close to a million dollars in Social Security and Medicare payments that we've scheduled for the future for an average couple, that is only a growth which would take place that is independent of the demography that's taking place.

What's also happening, of course, is that the baby boomers are starting to work their way through the population. That's the big hump there in terms of total fertility rate. The expression that's often used is that the baby boomers have moved through the economy like a pig in a python. Think of a python swallowing a pig and how that pig starts affecting the python. The baby boomers first affected the demand for primary and secondary education, then the demand for housing, then the demand for higher education, and then an impact upon the labor force. Now apparently they are affecting the stock market with growth and pension payments, but coming to the end of this period of time, they will be affecting Social Security and Medicare.

It shows through in social numbers in terms of a worker-per-beneficiary calculation. We're now at about three workers per beneficiary, declining to two workers per beneficiary, despite the fact that there is a very modest surplus in Social Security. Social Security has always been, and still is, largely a pay-as-you-go system. What comes in, goes out. If you have three workers each providing a dollar for a retiree and you drop off to two workers providing for the retiree you have two options. You can cut that retiree's benefit by a third if you want to keep the taxpayers whole and not have to increase their taxes, or you can increase the taxes on those workers by 50 percent if you want to keep the beneficiary whole with the same level of benefits. That's the demography alone, even independent of what I told you in terms of the annual growth in benefits in the more and more years of retirement. If you have that decline in workers per beneficiary, that's the issue you face. This is largely caused not so much by the aging of the population, but by the decline in the birth rate.

So let's take us back to where I was before. This is actually somewhat similar to a graph I showed you earlier in terms of Social Security, Medicare, and Medicaid as a percent of GDP. It's including extraordinary pressure on the rest of the budget today, not just waiting until you get to 2020 and 2030. It's already occurring and these are the types of issues that we have to face. It's not necessarily a bad set of issues. If we're living longer, if we get better health care, it's just a matter of deciding how we're going to pay for it or whether we're going to pay for it by deciding that other domestic priorities are going to go into abeyance.

I want to go through just a couple of implications now for state and local governments as long as we're in this audience. One is, if you look at that other domestic policy, part of the graph there, that's where a lot of federal payments to states and localities fit in. Basically, if you are worried about state and local government assistance from the feds, you are the residual. You are at least in the residual and so there will be extraordinary pressure put

upon states and localities to self-finance much of what they want to do in the near future. That's implication number one.

Implication number two is that the story I told you about health care is also applying to the nonelderly budget here. This is a measure of federal public assistance spending as a percentage of GDP. You notice the brown or black area at the bottom is what used to be called AFDC, and now is called TANF, Temporary Assistance to Needy Families. That's where we have our huge debate over public assistance policy. It's a trivial portion of federal public assistance spending, public assistance being that spending that's income-conditioned. It's measured by your income and mainly goes to the poor. It's all these other areas: food stamps, earned income credits, housing assistance, and others that have really become much more dominant, but look at what's happening on the health care budget as well. The health care is taking a larger and larger portion of that pie and so we're making decisions. We're saying, "If you're poor, we'll buy the \$200,000 or the \$500,000 a year surgeon, but we're going to have less and less to give you help at least at the federal level in terms of your other needs." And that also plays through, not only in terms of the assistance for low income people in its states and localities but, of course, the Medicaid budget has enormous implications for your own budget.

A third implication has to do with the pressure upon state and local revenues. I don't know how states and localities are going to resolve this issue. State and local revenues have actually been increasing quite substantially in the postwar era. In fact, it's interesting we've had all these debates over federal taxes as a percent of GDP because it's really been states and localities, mainly states, where the growth has taken place and largely in the income tax as opposed to the property tax, which has waned in importance.

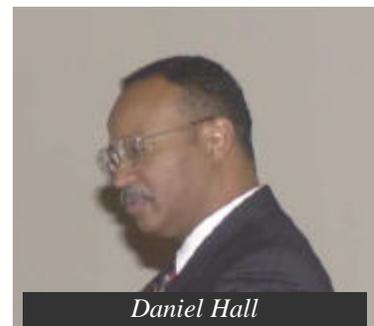
The other area is a little bit of a funny area. I don't know how much interpretation you want to give to it, but that's the movement of states and localities assessing much more in the way of fees and charges and other things. So, it's a little bit of a funny number and sometimes you want to count it and sometimes you don't want to count it in terms of what states and localities are doing in terms of their tax collections. But I don't know whether this tax collection growth will continue in the future. Most states right now, if you look closely at the data, are benefiting from an extraordinary increase in income tax revenues, both because there are a lot more capital gains in the economy, but also because in most states there's a lot of what is called "bracket creep." People are moving up into higher rate brackets.

I want to end with my last implication for states and localities on an optimistic note. If you look at federal domestic spending per household, you actually find out over the long course of this century, we have increased federal spending to over \$8,000 per person. This actually goes to 1994; that is federal, state and local domestic spending was about \$8,000 per person in 1994. Actually over \$10,000 today, easily, per person is what we spend. And it will grow as economies expand in the future. So what I'm suggesting to you is that this pressure we feel, this budgetary pressure, is not a pressure that comes because we don't have resources of a rich society to spend them. It's a pressure of deciding how we want to spend this money, how best we want to allocate it to our most important needs. And for that reason I encourage you not to be pessimistic about these budgetary issues that I present to you. You know the definition of a pessimist is someone who, when he smells flowers, looks around for a casket. Thank you. (Applause)

Questions, Answers, and Comments

Daniel Hall

Thank you, Dr. Steuerle. We're running overtime, but I would like to take just a few more minutes for maybe one or two questions from the audience. I don't want you to get away without having an opportunity to have at least one or two questions addressed to Dr. Steuerle. Any question from the audience? We had a lot of data in the presentation, but it poses serious implications for our state and other states around the union. Any questions from the audience?



Daniel Hall

Questioner

How about the idea of eliminating the cap on Social Security? Would that get us to about 98 percent?

Eugene Steuerle

I think for the long-term social deficit that it might cover a third of the deficit. The problem is whether you measure short-term versus long term. The long-term problem is more serious than the short-term, but the long-term problem can be exaggerated, too. If we would just be willing to work a little longer, those problems that start coming along as we go out to 2020, 2030, 2040 can be taken care of and then proposals like that would cover more of the difference.

There is somewhat of a complication here and that is Social Security has long decided that, if you put more into the system, you get more back. If you totally eliminate the cap, we would face a situation where the Bill Gates' of the world would be getting millions of dollars in Social Security benefits. Traditionally it's actually been the liberals who have opposed that particular type of reform, in part because they fear if you do that then you lose the whole notion that it's a social insurance system. You get something back if you put something in and if you go to that, then it will start becoming means-tested and become more like a welfare system, which I think would hurt the middle class. So, there's a tension there, but I think the bottom line is that a Social Security reform would probably see some increase in this wage base.

Questioner

What percentage of that \$10,000 per person actually gets to the people?

Eugene Steuerle

Well, it depends on what you mean by "getting to the people." Remember, you were talking earlier about the number of people in prison. You know we have this sort of funny system where there are times you can get a lot, but what you get, we don't often think of. In terms of cash to the people, very little. What we provide people are often workers or education. There are ways to do things like vouchers, and I don't just mean with education, which is highly controversial, but with health care and a lot of other areas. There are ways to get people the money to have some decisionmaking, but then still have the government come in and say, "OK, but you have to spend the money this way." Maybe in education it still has to be in a public school or it could be at a public and a private school that do certain things. In health care, it's a health care provider that meets certain minimum standards. That's an attempt to try to provide a little more discretion to the people in these types of programs where we're mainly hiring workers like educators and doctors and other things like this.

Questioner

In the Greater Cincinnati area, over 700,000 people are being kicked off their HMOs. What are your thoughts as to how to fund the budget reasonably to extend the Medicare benefits?

Eugene Steuerle

I think that this system again, where we bargain over what other people will pay, is not viable. There has to be somebody who has concern over costs. And I think because we all want more health care, especially more health care for those of our families who are needy and sick, there's always going to be a tension as to what we want and what we can get. I think that'll play out in movements towards things like HMOs and PPOs; that will continue. There will be attempts more and more to provide vouchers. What I think will come in on the other side will be attempts perhaps to provide more government standards on what can be provided. I don't think there is a pure answer. If some new health good or service becomes available, we want it. Can we pay for it? That's the type of tension we've hidden in this other system and, as it becomes more explicit, we need to find ways in society we can face up to that tension without being so acrimonious about how it plays out. I think probably you will also see, directly or indirectly, that government starts providing these insurance payments to groups or providers that move a bit more towards community rating. I mean community rating either in the sense of not necessarily covering the whole community, but covering a large segment of the population to avoid small segments of the population who are relatively healthy, from avoiding some of the costs that they now bear in broader insurance policies. But I don't have a pure answer here. As I say, this is a case of limited resources and unlimited wants and we've hidden it in this old system. Well, thank you very much.

Daniel Hall

Thank you, Dr. Steuerle. (Applause)

What Does the Aging of Kentucky's Population Portend for the Future?

Moderator

Dr. Graham Rowles, Sanders-Brown Center on Aging, University of Kentucky

Panelists

Dr. Thomas Ford, Professor Emeritus of Sociology, University of Kentucky

Dr. John Watkins, Director of Graduate Studies, Gerontology and

Associate Professor of Geography, University of Kentucky

Representative Susan Westrom, Kentucky General Assembly

Senator Jack Westwood, Kentucky General Assembly

Graham Rowles

I'm Dr. Graham Rowles from the University of Kentucky and I'm also Associate Director of the Sanders-Brown Center on Aging. It's my privilege to serve as the moderator for what I hope will be a lively discussion this afternoon. To get straight to the business at hand I'd like to start by introducing our panelists today to give you a little background. Then I'd like to provide you with what I propose as the way in which we proceed to maximize the amount of time we have and to maximize the dialogue we have.

First of all, to my immediate left is Professor John Watkins, from the Department of Geography at the University of Kentucky. He's also the Director of Graduate Studies in the Doctoral Program in Gerontology and is affiliated with the Sanders-Brown Center on Aging. Sitting right in front of me here, running the whole show of not only this particular session but also this whole conference, is Mike Childress, the Executive Director of the Kentucky Long-Term Policy Research Center. We also have with us today the first Kentuckian I ever met, actually the first Kentuckian I met as I got off the plane to come to Kentucky for the first time. Professor Tom Ford is Professor Emeritus of Sociology and is a former director of the Center for Developmental Change, an individual who has a long history of working with disadvantaged populations and trying to understand in particular the Appalachian regions of our state. In addition, we also have representation from a political community and I'm pleased to be able to welcome Representative Susan Westrom from Lexington. She currently serves as Co-chair of the Subcommittee on something, but she's going to have to explain it to me, the Subcommittee on Seniors, Military Affairs and Public Safety. I have to really think about seniors as a public safety hazard, but I'm going to be fully informed here. (Laughter) We also have Senator Jack Westwood, a Senator from Erlanger, not too far from here. He also serves on this joint committee of Seniors, Military Affairs and Public Safety and is currently working with Susan on trying to work out what their explanation is going to be. Finally, we must apologize for the absence of Lt. Governor Steven Henry. He was unable to be with us and, so, as we always do in situations, we've asked Mike Childress to step in and to play the role of the Lt. Governor for the discussion part this afternoon.

Let me provide you with a little bit of context for the remarks that you'll be hearing. First of all, it's no surprise to anybody in this room, particularly after our lunchtime speaker, to know that there is significant growth of Kentucky's elder population and that growth is projected to continue. There's also going to be, even more important, a significant growth in the proportion of our population that is elderly, as defined as being 65 or over, over the next two and three decades. In fact, as the writer Isaac Asimov once said, "We're entering the age of age." Age is going to be the dominant theme on the agenda. Now what's even more important is the growth of not just the elderly population but the oldest old population; and the thing that should be of most concern to us will be the growth of the

population 85 years of age and over. Being 65 these days is not really a problematic phenomenon, except for those of you who don't wish to retire, I suspect. But, being 85, which is the lot of a lot more people, does generate the kinds of problems that we've never had before, at least on this scale, that we're likely to encounter.

There are major issues to be faced by our state in the next two decades, major quality of life issues that relate to the aging of the baby-boom population. To use the image that was used a few minutes ago, as that pig moves through the snake and becomes 65, that is not really going to be a problem, many people will tell you. But as that pig ages and becomes 75 and 85, that's when we start to encounter the problems. There are going to be problems of income support, at least potentially those problems; problems of health care; problems of long-term care for the increasing number of those who are likely to need assistance with activities of daily living, particularly as they move into their 80s.



Dr. Graham Rowles

However, even more fundamental, I would like to suggest to you, are questions that relate to our degree of preparedness for what's occurring in our society and in our Commonwealth. How well has each of you in this room prepared for your own financial future? Have you made appropriate arrangements to ensure adequate health care as you age? Are you sure? Probably not. Who will provide day-to-day care for you should you become unable to take care of yourself, which may happen as you enter your 90s? And what role do you expect your government to play in ensuring the quality of your life as you grow older? And, perhaps even more important, what kind of age do you want to have? What do you want your life to be like? We're talking about a phase of your life now which may be 15, 20, 25 years. It's not just a question of how you survive, how you provide health care, but what role will you play in our Commonwealth? What will you contribute as well as what will you receive? These are issues that we desperately need to consider.

Now my guess is that most of you in this room will do OK, but I suspect that this is not a very representative group, that there are in fact many people in our Commonwealth who are far less fortunate. How effectively is our planning proceeding for those folks, for the time when one in five of the people in this Commonwealth will be 65 or over? How are we planning for the disadvantaged? Now in this Commonwealth we're in the midst of a project, as we speak, a major initiative to consider these issues and that's what we want to talk with you about this afternoon. What we would like to do is to provide you with some information and also discuss some policy recommendations that will enable our Commonwealth to deal with the approaching age of age.

As a result of a collaboration between the University of Kentucky Sanders-Brown Center on Aging, the Survey Research Center of the University, and the Kentucky Long-Term Policy Research Center, we've been engaged over the last two years in a major initiative to consider the future of aging and to try and understand some of the dimensions of this problem. We've worked in addition with representatives from the Appalachian Center and also from the Department of Aging Services. The initiative involves three components.

First, it involves detailed demographic analysis of trends and projected growth paths, a very difficult thing to do as you will see, and Professor John Watkins has been heading up this particular initiative. Second, we've completed and will be reporting to you the preliminary findings of the Kentucky Retirement Survey and Mike Childress will be focusing on some of the preliminary results from that survey. And, third, and most exciting, and partly representative of the personality and character of our Commonwealth, we'll be looking in depth at a small group of people who have looked at this survey, and we'll try to understand a little bit about what the statistics mean for them on the ground. We'll be talking in depth with a selection of elders and folks who are pre-retired folks and we'll be trying to see what life is like for them, how they've planned for their future and to put a face on the statistics that you'll be getting this afternoon. This will all be put together in a major report that will be developed through the Kentucky Long-Term Policy Research Center, and discussion of preliminary ideas and preliminary results from this is our focus today.

I propose the following format. What I'd like us to begin with is some presentation of information. First, from John Watkins, we'll talk a little about demographics, and then Mike Childress will share with us some of the preliminary results of the survey, telling us what Kentuckians really think about their future, how prepared we are for our future, and this hopefully will provide a nice context for our distinguished panel to offer their comments. We'll then ask Professor Ford, Representative Westrom, and Senator Westwood to basically comment for five or ten minutes on the findings. At that point, I'd like to open the discussions to the floor and hopefully we'll have sufficient time to have an open and hopefully productive discussion. Let me start by handing over the floor to our first speaker, Professor John Watkins.

John Watkins

Thank you, Graham. Before I get started, I'd like to make two admissions. Number one, this is the very first PowerPoint presentation I've ever made, so if things get a little fouled up in the slides, I apologize for that. Hopefully, they will all be legible for everybody. The second element is that I have a tendency to elaborate, sometimes to an extent where I can really run overtime. To avoid doing that, I will try to stick more or less to basically a script that I've prepared just to avoid that elaboration to provide enough time for everybody to have an opportunity to provide input and ask questions. So we can field those questions and again, hopefully, have a lively discussion near the end.

The aging of America's population has attracted increased attention in both public and research arenas during recent decades. In the 1970s, for example, we saw the entry into retirement ages of individuals born during the post World War I fertility peak, and saw elders for the first time representing about one tenth of the total national population. That decade also gave witness to waves of retirement migration, especially toward selected states of a magnitude never before recorded. As we moved into a new century, almost 13 percent of the United States population was age 65 years and older. And growth within the oldest age groups, that is to say 85 and over, was more rapid than any other segment of the population and that's across all ages.

Society had become well aware of the many impacts of population aging from the explosive growth of many popular retirement areas, to heightened demand for health care and housing services and the tenuous state of Social Security. What does the future hold in store? And what, in particular, might we expect to find as we look at and within states, including the Commonwealth of Kentucky? These are important questions as we attempt to maintain and enhance our citizens' lives and livelihoods in the years ahead.

The central purpose of this presentation is to offer demographic context for the Kentucky aging project, and especially the survey component of the project, which Mike Childress will address in just a few minutes. I'll cover the general elements of elderly demographic change in Kentucky, examining not only historic change in the state's older population, but anticipated growth through the first quarter of the 21st century. I will close this brief overview by addressing some of the possible influences of elderly population change on Kentucky's future. Before getting into the numbers, I should touch very briefly on the need for demographic examinations. First of all, how many elders will there be in the future? What are the characteristics of the elders and especially those characteristics that warrant increasing attention? And, finally, what processes cause change in future demographics?

Now I will say that demographic studies are not the end result of anything. They do provide only a context for further studies. I say this out of recognition of the tremendous diversity in any population within a state and especially within the United States. Making sense of changes in an elderly population requires more than a cursory overview of the total of elders alone. Possible implications of an aging Kentucky must be cast within the context of such elements as historic patterns of total and elder growth and decline, expressed as both volumes and elder shares or the percentage of population within certain elder age groups. We need also to explore such characteristics as age, sex, race and ethnicity to better appreciate the diverse experiences of aging as they might occur in differential needs of specific populations.

And now for some data—in this case, a look at how total populations have grown during the 20th century and, again, this is the total population for the state of Kentucky as compared to the nation (see Appendix B, Watkins, slide 1). Most obvious is that the pace of increase has been slower in the Commonwealth than the nation as a whole. The impact of the Second World War is clear as national growth plateaued and state populations fell. Although Kentucky's population rebounded slightly by 1950, it slowly declined again for the next five years. Similar perturbations continued in Kentucky through the rest of the century, caused dominantly by changing economic conditions which stimulated sudden and often unpredictable migration flows. These early migration trends will, as we will see, have implications on future trends in elderly population change.

Kentucky has not been immune to processes that promote population aging. In 1970, for example, the Commonwealth had a slightly higher elderly population share than did the nation as a whole (see Appendix B, Watkins, slide 2). This is 10.3 percent compared to the national level of 9.83 percent. This imbalance is largely a consequence of labor force outmigration from the state of Kentucky, which depleted the numbers within younger age groups despite fertility levels that were slightly higher than national averages. Toward the turn of the century, the pace of aging was quite similar for both Kentucky and the United States as a whole and this is reflected in the very middle of this graph near the dotted line. Fertility dropped in the Commonwealth, especially among teens, and we experienced labor force growth through net immigration. A glance toward the future suggests an acceleration of aging within the state, so that by the year 2025 Kentucky may expect almost 21 percent of its population to fall within older age groups, compared to about 18.5 percent nationally.

Just over one half million elders currently reside in the Commonwealth and they account for about 13 percent of the total population. Recent growth in the elderly population, about 9.5 percent between 1990 and the year 2000, (see Appendix B, Watkins, slide 3) is actually slower than what has been experienced throughout most of the 20th century. Indeed, the most rapid growth occurred between 1930 and 1940, when the population increased over 33 percent, from around 142,000 to almost 190,000 individuals aged 65 and over. The elderly share of the total

population during this period increased from 5.4 to 6.7 percent, reflecting a simultaneous increase in size within younger age groups. The next 20 years, through 1960, saw growth rates of about 24 percent per decade. Despite the nationwide recognition of an aging population during the 1970s, Kentucky's elder population growth began to decelerate. The decade rate of growth during the 1970s fell to below 22 percent and the pace of growth continued to decline to only 13 percent during the 1980s and again about 9 percent during the 1990s, the lowest rate recorded during the century. The slowing of elderly population growth in recent decades, and especially through the 1990s, is principally because fewer people were aging into the 65 and above age groups, which is a direct consequence of post World War II labor outmigration from Kentucky. In fact, Kentucky's total population, as I mentioned before, actually declined between 1940-1945 and between 1950-1955. Individuals and families, during those periods, were leaving the Commonwealth for job opportunities in the booming cities dominantly of the north.

Kentucky will not continue the existing trend of slow elderly population growth or the trend of little change in the share of the total population that has aged. Labor migration trends reversed during the 1970s. Many of the young immigrants of that period and later have now aged in place and will soon be retiring. The aging of the baby boomers, which will be felt nationally, will be more acute at the state level because of the peculiarities of migration that concentrated baby boomers disproportionately within Kentucky. Kentucky's aging population should be viewed with regard to population diversity, or the mix of people according to their characteristics. Age and sex are perhaps the most popular characteristics. Within the elderly population, for example, older ages commonly include those with poor health and more disabilities than younger elders, and older elders potentially place a higher demand on service programs and institutions. The pre-retirement population is commonly viewed as the caregivers through individual efforts or through their labor in service industries, spending, and contributions through taxes. Young elders, aged 65-74 years, in general often are quite healthy, contribute many social benefits through care for older parents, voluntarism, and discretionary spending and also the transfer of savings when they are migrating into destinations.

Looking first to changes in Kentucky's population age structure, it might be argued that the state could be in a more favorable position in terms of its elders than the nation as a whole (see Appendix B, Watkins, slide 4). The population of Kentucky is expected to age more rapidly than most other states when the percent aged 65 and over is considered alone. Yet the oldest old, again those aged 85 and above, will comprise a smaller share than the nation, hinting that service demands will be less than the national average. Kentucky will by 2020 also have a larger share in the youngest elderly 65-74 and in the pre-retirement years 45-65. Both of these categories tend to offer net benefits to society, especially over the short term. The proverbial pig through the snake is where we're starting now.

A second view considers the combined influences of age and sex differences through the use of population pyramids. Now I'll have a series of three sets of population pyramids. The first set is for the year 1980, again through the year 2000, and 2020, and I suspect, if this turns out right, you will be able to see the beast moving through the snake, so to speak. It is a classic example of the aging of the baby boom and its influence on age structure. Let's go ahead with the show. Again, Kentucky is on the left (see Appendix B, Watkins, slide 5). The national pyramid is on the right. We're starting with 1980, move to the year 2000 (see Appendix B, Watkins, slide 6). We can see the baby boom moving from the prime labor force ages really through late labor force, or middle-aged adult, I guess. Now we move to the year 2020 and we can see the baby boom continuing to age both nationally and for the state of Kentucky (see Appendix B, Watkins, slide 7). Most noteworthy in comparing Kentucky and the nation, at least, is that there is a much greater clustering right around that retirement age of about 65. But we see it truly clustering at the age group just above 65, the very young elders, and also those people who were just pre-retirement, perhaps 55-65 years of age. We see this much more pronounced in the state population pyramid than we do the national population pyramid and we also see the implications of a reduced fertility level within the Commonwealth where we're finding slightly smaller percentages in the very youngest age groups, the childhood age groups. Also notice that there is the distinguishing sex imbalance that favors women especially among the oldest age of the elderly age groups. We will see this continuing through the next several decades of this century.

It is worth considering that by 2020, gender roles among elders will likely be quite different than they currently are among today's elder cohorts. More women in the future will have durable experience in the labor force, with individual Social Security contributions, pensions and savings that are above those found in today's elderly cohorts. Unlike today's elderly women, the future's older women will also more likely have higher levels of drivership, which means that they'll be licensed to drive and have more years of driving experience, thus increasing their independence through later ages than is currently observed. Still, it would appear that among the oldest ages, that aging really is focused on issues relating to women.

OK. Characteristics of race, which is dominated by genetic predisposition, and ethnicity, dominated by cultural identification, have recently become important features within population forecasts (see Appendix B, Watkins, slide 8). This inclusion is largely a result of recognized differences among racially and ethnically distinct peoples in terms of the demographic processes of fertility and mortality and also of migration. National estimates for 2000 indicate that white persons, and these are non-Hispanic whites, account for 84 percent of the 65 and over population; blacks for about 8 percent; Hispanics for 6 percent and Asians and American Indians combined for just over 2 percent.

Within the nation, these shares will vary widely. All of these populations have distinct historical location and migration patterns that have caused specific distributions. Kentucky has relative proportions of non-Hispanic whites that are above national averages and minority shares for all ages that are below national averages. Just over 94 percent of the state's 2000 population, aged 65 and over, are white; black persons accounted for about 5.2 percent and all other minorities represent less than 0.8 percent of the state's total elderly population, 1 percent of the nation's share that is not black or white. Elderly population change through the next 20 years may reflect little change in these proportions.

By 2020, the white elder share will have fallen half a percentage point; the black share will fall only slightly and all other minorities will amount to about 1.4 percent. Hispanic and Asian elders should exhibit the greatest increases of all minority elder populations by the year 2020. Nationwide, we anticipate more rapid growth within such minority populations as blacks and Hispanics across all ages than is expected for white populations. Blacks on average have higher fertility rates than whites and although mortality is also higher for blacks, the difference is less than for fertility and the rates are converging with whites. Hispanic populations also have higher fertility and slightly higher mortality than do whites, but in this case migration tends to play a large role in rapid population growth, international migration, and internal migration both across and within states. The anticipated consequence of these demographic differences is a trend towards a more uniform mix of population characteristics than we have witnessed in the past.

The low minority shares within the Commonwealth, both today and in the near future, are largely a consequence of history. Social, political, and migratory patterns essentially deterred significant permanent settlement and continued growth of minorities through the 20th century. Elder minority population change in particular over the next 20 years will reflect this history. Still, we can anticipate more rapid increase among most minorities than among the single majority elder group. Hispanic and Asian elders, in particular, may increase three times as quickly as whites by the year 2020. Elder American Indians may increase at twice the speed or more of the white majority. Finally, if population age is viewed as the number of elders within a specific group compared to the full size of that group, we find that most minorities will remain younger than the white population, whose proportion age 65 and over grows from about 13 percent to just over 19 percent. The black, Hispanic, and Asian populations all have elder shares that continue to be well below the white elder share. Only American Indians might be expected to age as a group more quickly than whites, with the former elderly percentage growing from 10.5 percent to about 18.3 percent of the total population by the year 2020.

A purpose of this report is to provide a demographic foundation that will allow both further study of and planning for aging. Kentucky's population is getting older in terms of both absolute numbers of elders and their size relative to the whole population. Despite the trend of more rapid aging than the nation as a whole, we will find our state comprised of a younger elder population with more folks clustered right at age 65, both retirees and pre-retirees. Women will continue to be a dominating group among elders and especially older elders. Minorities will remain a comparatively small component of the elderly population, although minorities are aging quickly.

One advantage to examining the future of population aging is that all elders who will exist in the coming decades are already born and alive right now and that makes the projection process a little easier because at least we know who we're dealing with. This is an often-cited reality, which is conveyed in an effort to support our ability to prepare for and accommodate an aging population during the coming years. To this end, it is safe to say that the Commonwealth will have more elders in the future who will require increasing levels of health care and social support and who will impose an increasing burden on the state's economy. Communities and even families will feel the pressure of an aging population. Yet, there is a pervasive difficulty in knowing where people will be living when they are elders, which causes trepidation with any projections of future conditions. Migration across all ages will influence population aging at subnational levels, and the smaller the area, the more pronounced the impact of mobility.

Finally, census statistics hide characteristics that are perhaps most important in trying to assess future impacts on population aging. Even controlling for age, sex, and ethnicity, people have tremendous diversity in such terms as health behaviors, knowledge of social support systems, and even cultural perceptions of what it really means to grow old. Demographic studies can offer a good outline for a story of aging in Kentucky, but it takes much more detailed explorations to really tell the whole story. Thank you very much.

Graham D. Rowles

Thank you, John, for an excellent background. We need to find out more about what the story is from the perspective of the folks out in the Commonwealth in terms of how aware, even subconsciously, they are of the growing needs that may appear in our Commonwealth. That was really one of the things behind the survey which we undertook and which Mike Childress is going to share of our findings.

Michael Childress

Thank you, Graham. As Graham indicated, we've been working with the Sanders-Brown Center on Aging on this survey really to get some hard data. I want to begin by first talking just a bit about the survey. The University of Kentucky Survey Research Center mailed out 2,500 questionnaires. There were 962 completed surveys and we sent them out to people ages 45 years and older. We wanted to get the retirement cohort as well as the pre-retirement cohort. There were 69 questions on a variety of topics: finances, health, work, computer use, transportation, you name it. In this presentation today, what I'm going to be focusing on, though, is the health care and the finance part of it.

Here is a little bit of information about the sample. The average age is about 61 years old; about one third or 31 percent are over 65 years of age, not 65 and older, but rather over 65; they range 45-93; about half are currently retired, 45 percent; 95 percent are white; 52 percent are female; and about half are urban, which reflects our population quite well. The geographical distribution is about 16 percent from the western part of the state, 19 percent from the east, 16 percent south central, and 49 percent from the urban triangle (see Appendix B, Childress, slide 9). In terms of education, about one fourth have less than a high school diploma; about one third have a high school diploma or GED; about one fourth have some college; about 25 percent have a bachelor's degree or higher; and then you see the distribution in terms of income (see Appendix B, Childress, slide 10).

One of the first things that jumped out at us is the disjuncture or incongruence, if you will, in terms of when people retired (see Appendix B, Childress, slide 11). We asked two questions. If you were retired, we said, "OK, how old were you when you retired?" And that is the yellow bar. And then we asked the people who were still working, "How old do you think you'll be when you retire?" And that's the orange bar. Now, if you look at it for a second or two, you'll see what's going on there is that people are retiring much earlier than what they anticipate. For example, only 3 percent of the current workers expect to retire at 54 or younger. By comparison, about one fourth of the retirement group retired when they were 54 and younger. We also asked folks, basically, when they had expected to retire (see Appendix B, Childress, slide 12). "Did you retire about when you expected? Did you retire earlier? Did you work longer?" And what we found was that 60 percent retired earlier. Well, the natural follow-up on that was, "Well, why?" And you think they must have accumulated a significant nest egg and they're ready to slide into their retirement. But, in fact, we found that nationally the same thing's going on, that 40 percent in the U.S. and 46 percent in Kentucky retired earlier because of a health problem or a disability (see Appendix B, Childress, slide 13). Now the U.S. data come from the EBRI, Employee Benefit Research Institute, and they have done surveys periodically. We got copies of their survey instruments so that we could replicate and compare some national figures. If you look at it, only 8 percent—let's be generous with the numbers and say one out of ten—of Kentuckians retired earlier because they could afford it. That 8 percent is down at the bottom. So, the message, I think, to take away from this is that, if I had to gamble, I'd say that each of us would probably retire earlier than expected and more than likely it would be because of a health problem than because we had accumulated a significant nest egg.

Now what about some of the health and health care issues? Let me just give you a little background here. We asked a whole battery of questions about physical and mental functioning and mobility, but I'm not going to show you any of that. The reason I'm not going to show you any of that is because we don't yet have the national data to compare it, and the scores are very abstract. They don't mean anything really to a lay group in isolation. There is a professor at UK who was going to provide us with the national data, and that just simply wasn't able to happen before this conference. What we can say is that, as we all know—I mean it comes out all the time in the newspapers—there are accounts about how unhealthy Kentuckians are compared to the national average, and there are a lot of reasons for this. We tend to smoke at higher rates (see Appendix B, Childress, slide 14). We tend to be a little bit more overweight. This is the body mass index (BMI) for all age cohorts, anything between a 25 and 29 is considered to be overweight, 30 and over is considered to be obese (see Appendix B, Childress, slide 15). And you can see, compared to the U.S. average, we tend to have a little higher BMI scores than the nation. Next slide, please.

All of this is translated in this lack of good health, if you will, into additional costs, for one thing. We asked people who are currently retired how much they spend of their own money each month on their health care, and it's the exact question I've got listed right there above (see Appendix B, Childress, slide 16). You can see the distribution. About 23 percent, about one fourth, spend \$100 or less a month; about 30 percent \$100-\$250; about 32 percent between \$251 and \$500; and about 15 percent over \$500. Now the median monthly amount is \$250, and if you take the median annual income, monthly income, divide it by 12 and get the monthly income, the people in the sample, this health expenditure amounts to about 13 percent of their income at the median amount. This is not even considering the people who are above the \$250 amount. The point is that they're spending a lot of their own money. We've had a lot of discussion about what the implications are for the government. We're going to talk about it a little bit here in a minute. But a lot of their own money is out-of-pocket, too. Can they afford it? This is based on a sample of 406 individuals who are currently retired (see Appendix B, Childress, slide 17). We asked them if they could afford their current medical expenses, and roughly half said they couldn't.

We asked them what they thought were the most important sources of health care and retirement, both what they are now and what they will be once they retire (see Appendix B, Childress, Slide 18). This is based on the complete sample. A couple of things jumped out here. Just last week, there was a news piece. Some researchers at the Rand Corporation published an article in the *Journal of the American Medical Association* where they're analyzing Medicare data. Now what you see here is that a significant portion of the retired population in this state, 54 percent, are depending upon Medicare as the chief source of health care. For the current workers, the folks who are not retired, the single source of medical coverage that they plan to depend on is also Medicare. What they found out in this *Journal of the American Medical Association's* published study was that fewer than two thirds of the people, or just under two thirds, who are currently on Medicare are receiving the coverage that they deemed to be necessary. So what it's suggesting is that slightly over a third, obviously, of the people who are depending upon Medicare are not getting necessary coverage. One of the things they found, for example, is that only about half the people who are currently diabetics have received any kind of eye examination. So they were looking at some very basic things. I guess what this suggests is that if people are planning on Medicare, not only is it on somewhat shaky financial ground over the long term, they may not be getting the best kind of medical care as well.

We also asked people a series of questions about how confident they were about health coverage and affordability (see Appendix B, Childress, slide 19). One of the things that we asked them, and this is in the orange bar here, the Medicare system will continue to provide benefits of at least equal value to the benefits received by retirees today. In about half, the people are either very confident or somewhat confident and about half aren't confident at some level. So we're really sort of split here. And, also, a significant portion, when asked if they think that either they have or will have enough money in retirement to take care of their medical expenses, over 50 percent, a majority, think not.

Now in terms of income security, one of the questions that we asked people was "Compared to the end of your working career, would you say your current standard of living is much worse, worse now, about the same, better now, or much better now?" (see Appendix B, Childress, slide 20). The bar chart shows the distribution for Kentuckians. OK. These are people who are retired and we're asking them to reflect back on the end of their working career. And almost 60 percent say, "I haven't really experienced a drop off. It's about the same." About 16 percent have experienced an increase and a little over one fourth have experienced a decrease in the standard of their living. Now the text that goes with this reflects national level figures and you can do the math and compare how that looks.

One of the interesting things that we found out, though, was that, if Social Security is the major source of income in your retirement, you have a much higher probability of experiencing a decrease in your standard of living compared to the way it was at the end of your working career (see Appendix B, Childress, slide 21). Without getting to the details, we controlled for a number of factors statistically, and what the bar chart reflects is relative dependence upon Social Security. The orange chart bars are folks who had indicated that they are not heavily dependent upon Social Security, and you can see they have a much lower probability, 17 percent compared to 30 percent, of having said, "my standard of living is worse" or much worse. Now, that's important because people are really depending upon Social Security. What this chart shows is that, when we asked them, we gave them a bunch of options and said, "OK, which will be the most important source of income in your retirement?" (see Appendix B, Childress, slide 22). People are heavily dependent upon Social Security, especially the people who are retired now. The current workers, you can see, anticipate on being less dependent on Social Security, and much more dependent upon employer-funded funds and 401K kinds of plans. Another element of uncertainty here, and I know that Ron Crouch has talked about this many times, is that there is some question about the future of corporate-provided private pension plans. As our economy changes and mergers take place and as companies go bankrupt, are they fully funding these things? Well, we certainly hope that these pensions are in good shape, because, as we can see here, Social Security and these pension plans are the two single largest sources of income that current and future retirees will depend upon in retirement. Now, of course, we each have a responsibility to save for retirement.

We ask people, both the retired and then current working career people, if they're saving for retirement and you can see here the results of that. About half of them didn't (see Appendix B, Childress, slide 23). Of current workers, about three fourths of them are saving and about one fourth aren't. We look very similar to the U.S. When you look at the national average, that EBRI data, you see the same thing nationally. When we ask people how much they saved, this is what we found (see Appendix B, Childress, slide 24). I think one of the more troubling things about this is that about 20 percent, about 1 out of 5, have saved nothing. And a significant portion, you can do the math, let's include under \$5,000 and under \$9,000, you're getting to a fairly large percentage of the population. About one third have saved less than \$10,000 for their retirement and that's not going to take people very far, obviously.

So, we ask people, "Well, do you plan on working in retirement?" (see Appendix B, Childress, slide 25). And, again, there's an interesting difference between people who are currently working and people who are currently retired. Of the people who are currently working, not retired, 60 percent of them say, "Yes, I plan on working part-time," and another 33 percent said, "No, I don't plan on working, either part-time or full-time." But when you talk to the people who are currently retired, what you find is 72 percent of them are not working, so maybe it's because of

the health problems. I don't know, but these are some of the things that I hope that we'll be able to explore when the in-depth interviews are done, to get behind these statistics to find out what are some of the stories and what are some of the situations behind the statistics.

We asked people some of their major reasons for working in retirement and the first one there, almost 50 percent—and they could circle as many responses as they wanted, so it's not going to add up to 100—49 percent said “to have money to make ends meet” (see Appendix B, Childress, slide 26). So fully half are doing it as a result of a financial impetus. Still 45 percent said, “I want to stay involved; I enjoy work.” A lot of them are doing it to keep benefits. So there are a variety of reasons here.

We asked them about their confidence about their retirement system. Although they did not have the benefit of Dr. Steuerle's presentation before we gave them this survey, nonetheless there's still a significant level of lack of confidence, if you will, in the future of some of these programs (see Appendix B, Childress, slide 27). You can see that almost 40 percent think that they're not too confident or not confident at all about whether Social Security is going to be there and this is the whole sample, workers and people who are currently retired.

What about the role of government? “How important is government support?” (see Appendix B, Childress, slide 28). We asked people for a variety of programs. People want the government. People, at least the people who answered this survey, have indicated they think government is very important, and we're not differentiating between levels of government here, for income support, medical care, and prescription drug coverage. Look at that 82 percent who think it's very important, and somewhat important, and if you just look all the way to the column to the right, “not very important,” you see some pretty small numbers. And so people are really counting on government to take care of this. Well, we understand that there are limitations in what government can do, and so we asked people a series of questions about whether financial need ought to be tied in any way to the provision of some of these programs (see Appendix B, Childress, slide 29). There seems to be a fairly strong level of support to tie financial need to a variety of these programs.

So, in conclusion, today's workers will likely retire earlier than planned and most likely due to health problems. Pay for medical care will be a challenge with many depending upon Medicare. Their standard of living more than likely will be about the same; however, those who've indicated that they plan on Social Security being their major source of retirement income are likely to experience a decrease in the standard of living. The future of Social Security and pension plans will clearly affect income security for future retirees. Citizens believe government support is important for a range of programs, and ultimately they seem to believe that these services should be tied to financial need at some level. As I indicated, these are all preliminary cuts at the data. We've got an important and extended story to tell from these data, but we wanted to give you all a quick overview of some of the high points as it related to income security, working and pensions, and health and health care.

Graham D. Rowles

Hopefully the two presentations so far have given people a sense of some of the dimensions of the issues that we're going to be confronting. In particular, hopefully, you'll see how the issue of aging and the way it affects people in our Commonwealth and our ability to support our elders is very much tied into the generation that's involved, and then basically looking at the current elderly population, folks now who have retired. It's not going to be exclusively providing us with enough information in the same way that the information on those between 45 and retirement is going to provide that kind of information. And so, basically, we need to start thinking about not just the statistics but also what it is as a Commonwealth that we want our elderly populations to be like. What do we want to have our lives like as we move into that phase in 10, 15, 20 years' time? And we're very fortunate today to have a number of the people around who have some influence on what we create as our own ways to the future. So we've asked three people to comment on some of the information that you have received and particularly in the case of the politicians to tell us what they're going to do about it. But, first of all, let me introduce Tom Ford again, who is going to provide some of the first observations on the data that you've seen.

Thomas Ford

Thank you very much, Michael. It's my pleasure to be able to serve on this panel to discuss some of the consequences of aging on Kentucky's population. When I told my wife that I was coming up here, she asked, “Well, what are you going to do up there?” And I said, “Well, I'm going to serve on this panel and we're supposed to look at the consequences of the aging of the Kentucky population.” And she said, “Well, are the other members of the panel as old as you are?” And I said, “No, in fact, I might even be the oldest person in the room.” And, I suspect that's true. She said, “Well, then, you're really sort of a token elder, aren't you?” And, I said, “Well, I guess you could say that, but I prefer to think of myself as a designated senior citizen.” So, now you know the



Dr. Thomas Ford

words that you're getting from this part are from a designated senior citizen and you can judge by the quality of the study that we have this characteristic that I happen to possess.

Looking first at John Watkins' data that he has produced, as I had already learned from knowing John, it is of good quality. He addresses the population changes of the past. Well, you were here. You heard what he had to say, and I think very well. He also provided us with some caveats and implications that should be taken seriously. There's nothing really startling, I think, to most of us in his findings, but it's the kind of base work that you happen to put the rest of the information on.

Now one of the things that caught my attention was his note that today's elders are alive today. Well, a lot of them were alive yesterday, too. We have, I think, a tendency to think of the baby boomers going on as a tsunami, a great wave that goes through and turns up things. But I got to thinking, "Well, I wasn't a designated senior citizen at that time, but I did contribute to the baby boom." And there were certain kinds of things that aroused my attention. If you look at it, it isn't an explosion, even though we used that term with it. It was something that developed over a period of time, but beginning right after World War II, around 1947, and it was shortly after that I began making my contribution to this group. And because of the nature of the development over a period of time we would see it swelling and then starting to dwindle and actually see it as moving down. Whether it's the pig moving in the pipeline or, as I used to prefer, the metaphor of the ostrich swallowing an orange whole, you could see it. But it turns out that it was much more difficult to decide or determine what was going on in the beginning of this baby boom group than it is for the current cohort population, even though it's the same population, but in different stages.

But the characteristics of the 1940s group were quite different. In the first place, there were more of them and that was true in Kentucky as well as nationally, but also there were different kinds of developments of this group that made it harder to compare with the current thing. Of course, they were much younger to begin with. But this was a situation where it was much more difficult. I was a demographer at that time and we sat around wondering, "Why is this baby boom continuing?" We had thought that after World War I, you know, you got a spurt when the guys came home from France and Germany, but the changes that we had then compared with the changes now, were considerably greater. So I'm not playing down the difficulties, you just have to look at some of the survey data to realize that there's a great difference, even though you're looking at the same group of people over these different periods of time.

Looking at the survey of present and coming retirees we have a number of interesting findings, even though as was pointed out, the analysis of data is incomplete since it would not be feasible to try to analyze all the data that Michael and his staff and John have. I look first, you know, at my own priorities. "What is most important here and did they ask questions on it?" Since Michael was kind enough to send me the questions, I was very pleased to find you had covered all of the questions that I was interested in and a good many more besides. The ones that I had looked for in order of priority was health; then health and medicine; then labor force participation, which is very important now as we've already noted; and income and housing, and I think there were some questions on housing.

But this is an area that is shaping up quite differently from what was anticipated. For one thing, we're finding that the elderly people, the older people, don't want to go to nursing homes. The earliest studies were looking at quality. They want to stay home and they want the services provided that will permit them to stay home. I had an insurance salesman a couple of weeks ago come in and offer to extend the policy to coverage for remaining in home and care there and offered this as an extension of the existing policy. I asked him, "Well, why are you doing this extension?" Incidentally he said it wouldn't cost any more and I hope he's right, but at any rate it is there. And, he said, "Well, the reason is that people are coming to my office and saying, 'We've gotten these other various forms of coverage, but we don't have anything that will take care of people who remain in their homes.'" So this is one of the developments.

One of the most rapidly growing groups once, and I guess still are, is those single individuals who live alone and, as Ron is nodding his head, this is important because this has a whole lot of complications that go with it. How do you handle elderly people in their homes and what benefits can you get? So I think this is one area that we want to look at and keep track of. This is one area that I would like to see expanded in the future with questions which provide some longitudinal analysis over time. I know there are a few questions and it is possible to do this, but this is something that you're going to be very much interested in by the time you get to be a senior citizen.

There were a few other matters in there that aroused my immediate interest. One of them was comparing the smoking rates in Kentucky and the nation. I had the idea that Kentuckians smoked a lot more than other people, but there was a relatively small spread there and I think that we would want to explore that more. In the case of the medical expenses of retirees, again, I would have guessed that the monthly expenditure would have been higher than they were. They were high, but not startling, but enough to catch our attention. Looking at the high percentage of respondents whose main source of retirement income is Social Security, I was surprised to see the effects of possible diversion of sources of some future Social Security payments. This is one of the things that, if they can ever get out of the current debacle, they will want to look at what the meanings really are from putting part of their Social Security income into stocks and bonds, or whatever the area would be.

Finally, you had a lot of questions on this and they were good, about whether the government should become involved in this. In reading the preliminary conclusions, I had to wonder why, if such high percentages of citizens believe that government support is important for a wide range of programs and services, this information has not reached the talk show pundits who see our government as a great inefficient operation. You wonder if it is so bad, why are so many people clamoring for it? It's a strange world we live in. Thank you.

Graham D. Rowles

And now we move to solutions for the problems, which always, I'm told, comes from government. And so, Susan?

Susan Westrom

Well, obviously I won't be around long enough to have all the answers to the problems. But one of the answers that I have been working on during the last two years has to do with the abilities of our senior citizens versus the liabilities. We hear very often, especially serving on the Health and Welfare Committee or the Seniors, Military Affairs, and Public Safety Committee, that the aging population as it ever expands will become an increasing burden to the economy. Yet at the same time, we hear very often that senior citizens contribute so much to our society with the benefits that we have through voluntarism and, of course, our senior citizens are the very ones that provide the in-home care for the frail elderly as well.

As we look at the statistics today, we're finding that a large number of people will be retiring around the year 2010, but the question is who's going to be filling the place of those employees? One of the questions that I had as a legislator was what Kentucky is doing to prepare for a large exodus of workers during that time. How are we going to fill in the gaps? And the answer to me appeared to be that we would need to tap the resources of these senior citizens. Certainly they have just as much to contribute in a professional life, while they're working, as they would as they retire and the majority of us sitting in this room probably aren't looking at retiring even, I would guess, by the age of 60. If you plan on retiring before that, raise your hand. Well, we have a few.

The reality is, though, that many of us will not be able to retire when we want to. When you look at the research shown today there are various reasons for senior citizens to remain in the workplace—ranging from having money to assist in making ends meet, because they enjoy working, or they require the extra benefits that they get, such as supplementing their subscription coverage so they can afford their medications. As a result of my questions a year ago, I had a meeting, bringing together various people from different state government agencies to question whether this truly is a situation we need be concerned about in the state of Kentucky. I know in Iowa they are welcoming Hispanics into their population because the senior population is aging so rapidly they do not have enough people in the workforce. I don't know what they've done to increase the number of seniors in the workplace, but, as I did research, I found that there were no states that were doing any investigation about maintaining senior citizens in the workplace.

So I brought together people from the Cabinet for Economic Development, the Department of Education, Long-Term Policy Research, Workforce Development Cabinet, Chamber of Commerce, KET, Senior Citizen Groups, Library and Archives, the Attorney General's Office, the League of Cities, Associated Industries, the Office on Aging, the Kentucky Community and Technical College system, the Governor's Office, the Speaker's Office, the Kentucky State Data Center and the Kentucky Center for Public Issues. My mission at that time was to determine if this is something we need to be looking at in the state of Kentucky. It was overwhelming the information that we got in a two-hour meeting and the results of that information I'll share with you in a moment. But basically, because of this meeting, we came up with issues that we see the state of Kentucky facing in the near future and the people that will have to be taking responsibility for leadership roles are varied from change-makers, leaders, employers, policymakers, senior citizens and teaching institutions.

This is just a brief outline of some of the things that came out of that meeting. Some of the concerns that change-makers and leaders in our communities felt were that there were so many myths and stereotypes concerning older learners that were inaccurate. The question arose, "Why are there so many willing and able to work unemployed that are just age 55 at this time?" What are the barriers that seniors face as they attempt acceptance into the workplace? We wanted to determine to what extent the aging of our society presents an untapped opportunity rather than a problem in the state of Kentucky. We wanted to learn more about the interest of senior citizens in job training to improve their related skills. We wanted to figure how we could look at senior citizens as a resource that we need to plug into. We wanted to find out how to get employers to recognize the demographic trends and folding in the labor force so that they could harness these changes to a competitive advantage. And we wanted a goal that would maximize the potential of those people 55 years old and older, just as we have been working on harnessing the benefits of children under the age of three.



Representative Susan Westrom

As policymakers, some of the issues that we brought up were areas in public policies, programs and regulations that need to be changed or looked at or enhanced or encouraged to be reviewed to get older people into the workplace. I hate to say older people when I'm looking at the age of 55 or 60. I'm getting so close to that, that's not old to me and I'm sure some of you can relate to that in here, too, but I won't point any fingers. At the national level, we've already addressed the Social Security issue, so those income levels are raised, but we also might possibly want to look at personal tax credit limits for work-related educational experiences for senior citizens. We might want to create a comprehensive plan to coordinate training and employment of older people or expand what's already available. We need to coordinate between labor, business, and aging populations so we have a process of everybody knowing where everyone else is, so they can access each other. We need to consider tuition waiver programs for students over 60 beyond what we are currently.

We need to create avenues or statewide clearinghouses of communication regarding résumés. So often the 60-year-old will have an incredible résumé, but where do they take it? There really are no headhunters that are specializing in senior populations. We need to promote policies that provide incentives and reduce barriers for seniors that want to participate in the workforce just like we do tax incentives to get an industry in our community. We need to look at how privately defined benefit pension plans create disincentives for continued work past normal age. We need to think about the formation of an elder corps. It appears that employers have a mixed value of an older worker. We need to find out why. We also need to look at health insurance obstacles. For the employer, the employer must recognize this generation has done better than any other generation as far as getting an increase in their education as well as an expansion of their income, but they also need to determine the cost-benefit ratio associated with employing senior citizens. We need to determine what corporate policies may need to be changed. We need to determine where a senior workforce might fit in—certainly not in the physical aspect of labor, but somewhere else.

Corporations will need to adjust their management styles. When you have senior populations working, your management team is probably a little different than when you have a younger workforce. Corporations will need to take a look at phased retirement, flextime, job sharing, and job redesign, simply because many senior citizens as they retire are phasing out of the workforce. They don't want to work full-time, maybe a few days a week or part-time during each day. No doubt about it, the baby boomer population is going to be a healthier lot and capable of filling many gaps in our workforce, if they're invited and if they're able and if they are identified as a potential candidate. However, recruiting senior citizens will also be a challenge because senior citizens are not normally registered with headhunters. They're not normally located on college campuses. And they're not where we normally look for employees.

Our senior citizens have a responsibility to the future for seniors in the workforce also because they need to recognize that their skills have value beyond voluntarism or entry-level positions. We have degreed people that are greeting people at Wal-Mart and yet these degreed people certainly have something to contribute within industry or the workplace in the state of Kentucky. We're worried about brain drain of young people leaving the state and yet we're not concerned about the brain drain of unemployed senior citizens for the amount of IQ and skill that they actually have. Senior citizens will need to determine how they meet the business demands of the modern corporation. They're going to have to communicate about barriers that they've encountered reentering the workforce. They will need to improve their computer literacy to be more marketable. And they will need to make learning a lifelong goal just as we're looking at children three years old; we don't want their education to stop as they get out of college.

We need to look at teaching institutions. Teaching institutions must get prepared for an increase in demand for employment services for senior citizens. With that population aging and growing larger, more and more people will be going into job training, but the institutions will have to change their programs to fit the senior citizens' needs as well. They're going to have to accommodate senior citizens. They'll have to look at issues such as parking and steps, how far they walk from one place to another, but they're also going to have to expand their services to meet a greater number of people. And they're going to have to remove the intimidation factor that many senior citizens would face on a college campus. These are all pieces of information that came from a two-hour meeting.

As a result of that we determined that the failure to accommodate older citizens in the future workforce could very definitely raise the cost of government entitlement programs for the aged. It could decrease the nation's savings rate and it could erode the gains made in reducing poverty among senior citizens. As a result, the investigative team determined that what might be good is to have a task force that would meet to look at this issue more broadly, to lead our legislative body to a new depth of knowledge regarding senior citizens in the state of Kentucky. So we drafted House Joint Resolution No. 73, which would bring a task force of various entities—senior citizens, professionals, cabinet level people, and outsiders—to determine where we need to be going to tap into this vital resource for the state of Kentucky. I'd like to give you an update of that task force; however, we've not been meeting because we are not having Interim Joint Committee meetings. So we might have to do that a couple of years down the road. I will not give up on this. I think this is a very important task force that all of us in this room need to be very, very interested in and concerned about. And I do encourage you, when this task force does start to meet, all

of you sitting in this room since you're here for a reason, to participate in that process because you have something to contribute as well. We're not talking only about employment for senior citizens, but we're talking about meaningful roles that senior citizens must have to remain healthy and viable and provide purposeful activity for senior citizens. And when you think about it, many of the world's towering intellects were not recognized as such until they got much older. Senior citizens are like great wines, they grow richer and fuller with time. I hope I grow richer, but not fuller, and I wish the same for you.

Graham D. Rowles

And, finally, the view from the Senate.

Jack Westwood

Thank you. Actually Susan didn't ever talk about what the Seniors, Military Affairs, and Public Safety Committee does. I was hoping she was because I wasn't sure myself. That was something that was formed two years ago, and it was actually formed in the House and they just invited some of the Senate members if they wanted to get aboard to come on aboard. But if you're interested in senior affairs or issues or if you're interested in military affairs or issues, or if you're interested in public safety, somehow they put all those things together under one umbrella. I think there's probably some rationale in that some of the military folks are retired veterans who are now seniors; and because they're seniors, there are some public safety issues involved. Don't ask me how; it's just one of those strange things that take place in the legislature, and it's just one more example.

But, you know, we've heard some things today about statistics and figures and certainly they are important things that we need to be taking a look at. Meeting the needs and addressing the issues that are going to be facing our senior citizens probably will be the most challenging public policy issue that we're going to deal with over the next decade or so. And it's going to be a formidable task for all of us to be working toward that end. We've seen that the number of seniors is growing by leaps and bounds. The good news is that seniors are living longer and living more healthily, and that's the good news, especially if you're my age because we're real happy about that. I'm glad Tom's here because otherwise I would have been the senior representation here and now I don't have to be. But, it is going to be a formidable challenge for all of us to deal with those kinds of things.

The downside, of course, is that because we're living longer and because we're living more healthily, someone is going to have to pay for that. And one of the more disturbing things that I noticed on the survey was that a lot of people are looking to the government to be that entity. I don't want to seem like a wet blanket on this day, but frankly I think that may not be the best answer. Because if we look to the government to be the solution to the issues that are facing our senior citizens I think seniors are going to be sadly disappointed. I don't think government can pay for all of it without raising taxes in a highly incremental fashion. The private sector is going to have to play a big role in this and I don't know if the question allowed that option to be there or how that question was phrased. But I believe the private sector is going to have to play a role by providing ways for workers to ensure against future risks that they're going to be facing. If we don't find a way to decrease our dependence on government and learn to integrate some of the private sector to finance the multitude of retirement costs, health costs, and all the kinds of things that are facing our seniors, I think our seniors are going to be suffering. And, when the seniors suffer, I believe we're all going to be suffering because, as I said, we're all living longer and participating as part of that.



Senator Jack Westwood

Now I don't know that we have solutions in the legislature. I certainly think that Representative Westrom pointed out in her talk all very good points. I think that she very aptly indicated that you have to look at all areas: the institutions of higher learning, the various agencies that look out for the seniors, the private sector, the insurance sector certainly, and the government. And we all need to be taking a certain amount of responsibility to this.

One thing that I would be concerned about, and I think that was brought out as one of the topics, is this issue of long-term care for our seniors. I think if you look at any one aspect of the high cost of being a senior, that is obviously going to be in the long-term care area. As I said, we're living longer, but that means that we're going to have more people who are going to be needing long-term care in one form or another. My mother is 81 years old and for the last five or six months before my father died, just a little over a week ago, she was his primary caregiver. Now that was a struggle for her at 81 years old, but she was able to do it because she is quite healthy. The thing that she said over and over to all of us kids is that, under no circumstances, was he going to go into a nursing home. And it wasn't financial, because I think financially we could have handled that, although let's face it, that is an expense. The cost of a nursing home can pretty well impoverish a middle-class family within just a few short months. So that's certainly not a good option, but the reason she didn't want it was she felt she needed to be the primary giver as long as she was capable of doing it.

And so we were looking for alternatives: home health care services, something intermediary without actually going into long-term home care, some of those kinds of things, or nursing homes. Those are the kinds of things that they were concerned about. But again, how do you make home health care something that would be a whole lot better than a nursing home, because it's certainly a lot less expensive? How do you make that work if you don't have caregivers, or if you don't have people in the family who can take care of that? You can hire people to take care of home health care, but again there are a lot of problems with home health care.

There are some suggestions. I would like to, in the three or four minutes I have left, talk about some of the suggestions that we could be doing for home health care that might make that solution a little better option so people don't have to go to nursing homes. One of them would be to implement co-pays. Now this is tried and unfortunately even saying a co-pay of maybe \$5 for some felt that was way too much because it would be unfair to the poor. So we're going to have to deal with that issue. Can we do co-pays to help relieve some of the high cost even of home health?

Managed care is another option that we can look at, using managed care dollars. Certainly managed care would be interested in doing home health because it would be a lot less expensive than sending them into a high-cost facility, but the jury is still out. A lot of seniors are nervous about managed care because they want to make sure that the quality of care they are receiving is the same quality of care that young people are receiving. They don't want the thought that since he's 80 years old, do we really want to go to this expense to give him 10 more years, or five or two more years or a couple of months? So that makes some nervous: "How valuable is my life as I grow older and older?" And that's an ethical question we're going to be faced with as well.

President Clinton offered a suggestion about tax credits after the fact; that is, if families decide to take care of their loved ones instead of sending them to a nursing home, they would get a tax credit. The problem with that is, he offered around \$6 billion over five years, and there's probably going to be a need of \$27.6 billion. So that's not going to pay for it and they're either going to have to come up with more money through taxation or it's going to have to be reduced down, those tax credits. So tax credits after the fact I don't think is particularly viable, but maybe tax credits before the fact would be a possible solution. That is, give people who buy long-term care insurance a tax credit for what they purchase. If people would buy long-term care insurance, then they would have that pool of money waiting for them when they are prepared, or when they are involved in going to a nursing home or whatever long-term care situation they're involved with. The trouble is, not many of us think about long-term care insurance when we're young and healthy and, when you're old and not so healthy, then it's impossible to get it at any kind of reasonable rate. Tax credits might make that a little more desirable.

Another possibility would be to enhance access to people's assets. Older folks, very frequently, are fairly wealthy because they don't have to pay house payments as much. Their car payments are reduced. Their families are moved out and they don't have to worry about those costs; so despite the fact that they may not have a whole lot of income coming in on a monthly basis, they don't have a lot of outgo except for those medical costs. And they do own their homes, they do own their cars, and they have other assets in stocks and bonds and perhaps things of that nature they could be able to transfer and have access to those. The problem with that is that under Medicare, if you own these things then you're not eligible for Medicare, and you have to pretty much impoverish yourself before you're able to latch onto the Medicare. And lawyers have figured out how to get rid of those assets before the time comes. So that's a struggle and we'll have to be looking at those aspects. We might adopt new options for creating assets, such as depositing payroll taxes into privately owned individual retirement accounts. Something like that would help build up a little nest egg. Tightened Medicaid eligibility would be another one that might help out in solving some of the financial aspects, and one more is deregulating home health care regulations. You know, right now, there are so many regulations on home health care that it's almost impossible to make it work. If we could deregulate it so it's a little bit easier for people in the home health care industry or even family members to take care of their loved ones by deregulating, it might make it more attractive.

What is the Future of Postsecondary Education in Kentucky and How Can We Increase the Number of Students?

Moderator

Dr. Steve Clements, Assistant Professor, Department of Educational Policy Studies and Evaluation, University of Kentucky

Panelists

Dr. Melissa Evans-Andris, Professor, Department of Sociology, University of Louisville

Dr. Edward W. "Skip" Kifer, Professor, Department of Educational Policy Studies and Evaluation, University of Kentucky

Dr. Sue Moore, Executive Vice President, Council on Postsecondary Education

Corrie Orthober, Intern, Kentucky Long-Term Policy Research Center

Michal Smith-Mello, Senior Policy Analyst, Kentucky Long-Term Policy Research Center

Amy Watts, Policy Analyst, Kentucky Long-Term Research Center

Stephen Clements

Based on the number of conference registrants who said they'd like to attend this session, we know there's a tremendous amount of interest in this topic and we're glad you're here, although I can barely see some of the folks in the back. We'll just assume that you're present. We have an excellent and extensive lineup of folks to hear from today, so I want to get us started here. I'm going to be the moderator for this session. My name is Steve Clements and I'm with the Department of Educational Policy Studies and Evaluation at the University of Kentucky. What I'd like to do in the next few minutes is give you a little background information, then introduce the panelists and let them each give brief presentations or reactions. After everyone has had a chance to provide some input, I'd like for us to take 30 minutes or so at least for questions from and interaction with audience members.

Let me start out by saying I'm very pleased to live and work in a state that's been making a conscientious effort over the last couple of decades to overcome a legacy of underemphasis on and underinvestment in formal education at all levels. I'm not suggesting here that Kentucky has done a poor job of funding and providing education services recently. Indeed, on a range of education indicators, Kentucky is doing pretty well relative to other southeastern states and it looks respectable on a number of others compared to the rest of the nation. However, there's a fairly strong consensus and, if you've been at this conference before this session, you'll have heard some of this. There's a consensus that during much of the 20th century Kentuckians did not pursue formal education very vigorously and that this has left us with some rather serious learning deficits that we must work long and hard to overcome.

Yesterday at the afternoon sessions, I heard a lot of figures bandied about. One from this morning that I wanted to reiterate is that somewhere between 800,000 and a million adults in Kentucky are functioning at the lowest levels of literacy that register on the scales. I'd also point out that the percentage of adults in Kentucky who have bachelor's degrees, four-year college degrees, is about 12 percent, which is roughly half of what the national average is. And I like to remind students, in terms of thinking of the legacy of where we are in education, that Kentucky has only had state-funded universal half-day kindergarten since about the middle 1980s. So compared to northeastern states where there have been higher education institutions functioning for 250 or 300 years, we have a long way to go. Given these problems and given that over a quarter of the children in this state live below the poverty line, it's clear that we'll have our work cut out for us as a collective political entity.

In terms of today's topic, most of you are quite familiar with the fact that in 1997 the Kentucky General Assembly and Governor Patton together produced a comprehensive higher education reform measure designed to dramatically improve postsecondary education in the Commonwealth. I was in Lexington when the debates in the special session were being held and, of course, most of the public discourse focused on the proposed separation of the community college system from the University of Kentucky. So if you ask a lot of people that was what they thought this whole thing was about. But, of course, there was a wide range of provisions that were a part of this bill. It created a new and more independent postsecondary governing body, the Council on Postsecondary Education, to set overall policy for this system. It folded the community colleges and vocational schools into the Kentucky Community and Technical College System, and it targeted several hundred million additional dollars into Kentucky postsecondary education, as well as providing a range of incentive funds to mobilize the state universities to focus their resources more strategically.

One of the results of this legislation has been the development of very ambitious higher education goals for Kentucky by the Council on Postsecondary Education (CPE). Perhaps most notably, the CPE is expecting the state to increase its undergraduate or postsecondary enrollment by about 50 percent from roughly 161,000 students a year to about 241,000 students per year. And, of course, this is what's necessary for Kentucky to reach the national average in terms of undergraduate attendance rates. Now, fortunately, the CPE has given us until 2020 to meet this goal, but we know from Ron Crouch and other demographer types, that we won't really have very much population growth between now and then. So we'll have to accomplish this rather Herculean task with essentially the population that we currently have within the state, with perhaps a little bit of natural growth. Now, the question for us here is essentially this: how can Kentucky increase its postsecondary attendance by this much over the next couple of decades? Or we might alternatively phrase this, what policy levers are available to decisionmakers to help move the state pulsively in this direction?

Now, earlier this year, the Kentucky Long-Term Policy Research Center embarked on a multipronged project to generate some answers to these questions. The next four panelists we'll hear from today will discuss their work on different aspects of this project. First, we'll be hearing from Michal Smith-Mello, Senior Policy Analyst at the Center, who will talk about her visits to several high schools that are doing either a much better or much worse job than we might have expected in terms of sending their graduates on to postsecondary education. Second, we'll hear from Corrie Orthober, a graduate student at UK and a research intern at the center, who accompanied Michal on her school visits and who's been studying the transcripts of teachers from those schools to determine if there are any significant teacher quality differences from school to school. Third, we'll hear from Skip Kifer, a colleague of mine at UK and a statistical measurements specialist, who'll discuss some preliminary results of a survey of 16- and 17-year-old high school students in Kentucky carried out this summer by the UK Survey Research Center. Fourth, we'll hear from Amy Watts, the resident economic specialist and a resident practitioner of abysmal science at the Center, who's been working on a cost-benefit analysis of postsecondary schooling in the Commonwealth. Then, we'll have two more panelists who will provide some reactions to these presentations. The first will be Sue Moore, who's Executive Vice President of the Council on Postsecondary Education in Frankfort. The second will be Melissa Evans-Andris, an Associate Professor of Sociology at the University of Louisville, who during the 1999-2000 academic year was Director of Research at the Kentucky Department of Education. After all of the panelists have had a chance to speak, we'll give you a chance to interact with some of them.

Michal Smith-Mello

My task today is to talk predominantly about something I know very little about, but I will do my very best. What I'm going to do initially is describe to you the quantitative path taken by our Director, Michael Childress, to get to our qualitative look at particular high schools in the state of Kentucky. We began, at Sue Moore's suggestion I might add, by looking at Transition to Adult Life Reports which are now required in the state. High schools essentially compile these by contacting students and determining what they have chosen to do after high school (see Appendix C, Smith-Mello, slide 1). As you can see, we had in 1998 about 7 percent of young people in the state choosing to go to a college out of state and about 46 percent going to a college within the state of Kentucky. So, about 53 percent, as I believe Steve indicated, were going to college. This looks at these data by region (see Appendix C, Smith-Mello, slide 2). You see here a wide variance making the choice to go on to college, from as low as 45 percent of the young people from high schools in the south central region to as high as 58 and 59 percent in our urban centers, namely Jefferson County and the Bluegrass Area, and a fairly high percentage from western Kentucky choosing postsecondary education.

Now these data also showed us that there was a tremendous variation by individual school, from as high as 95 percent of the students from a particular high school choosing to go on to college to as low as 17 percent (see Appendix C, Smith-Mello, slide 3). Keep in mind there were some alternative schools in this mix, and those students tend to have pretty poor academic performances, so it might be expected, but nevertheless we saw some pretty abysmal postsecondary attendance rates among these schools. Mike's immediate reaction to these data was to build a huge database. So he did that and, for three reasons, he launched into a multiregression analysis. First, to better

understand what the effects of individual variables are, I simply give you some samples of the data that he plugged into this enormous database about individual high schools. They include data about the region. For example, the education of the population, how many folks have a bachelor's degree in that particular county; if it's a large urban school, he would have looked at the zip code in that case and used that data. We also used data about the individual schools, a lot of it from the school report cards, but also data we had collected independently. The second purpose for this was to predict college-going rates. With this model, he was able to predict, based upon these criteria, what percentage of a high school's student body should be expected to go on to college, given all these variables. In that process, we could identify what high schools are overachieving and what high schools are underachieving.

We found, as one might expect, that some of them aren't doing very well, and some are doing quite well (see Appendix C, Smith-Mello, slide 4, third bullet). For example, among the lowest group, the model predicted a college-going rate of 40 percent for one high school. You might assume that that particular high school had a low population of college-educated folks in its surrounding area, a high poverty rate, or that sort of thing. Predictive values indicated that we shouldn't expect, at this particular school, to have a high college-going rate, but we found at one such school that 70 percent of those young people were actually choosing to go on to college. Conversely, we also found that the model showed that, for example, another school had a predicted rate of 45 percent, yet it was only sending about 30 percent of its own people on to college. So something was wrong in that particular mix.

We also found that certain variables were highly significant. You'll notice on the screen that the “++” means highly significant. A plus is a positive relationship. If a school had a very high performance on the CATS test, for example, it is positively correlated with the college-going rate. Look at the size of enrollment. It's a negative relationship—in the sense that the larger the student body, the lower the college-going rate—and highly significant. So, it's a significant relationship, but the prediction is a minus. It's having an inverse effect on it. One really interesting thing there is the unemployment rate in the county. The higher the unemployment rate in the county, and this was borne out in the case studies as well, then the higher the college-going rate.

Working from this multiple-regression analysis, we decided which high schools to go to. Our criteria were the predicted versus the actual college-going rates; geographic distribution—we wanted to look at a rural school as well as an urban school; at least one small school, although many of our high schools are quite large now; and a very diverse student body if at all possible. And, under the advice of the Kentucky Department of Education, we excluded alternative, model, independent, and traditional schools because it's believed that the socioeconomic status of their students tends to be skewed and thus the performance is likely to be skewed as well.

So we selected four schools to look at. We selected one from the 10 schools that performed well above their predicted 1998 college-going rates; one that did exactly what the model showed it should do; and we selected two schools that performed well below. We went into these schools and conducted private interviews with students, teachers, principals, and appropriate staff to learn what we could about what the missing piece of the puzzle is here, what's going on.

I'm just going to talk briefly about the things that we learned (see Appendix C, Smith-Mello, slide 5). Number one, school leadership matters a great deal, not only the quality of that leadership, but also the stability. One of our underperformer schools, interestingly, looked very much like a school in transition, a school that's going to become a much better school in the years to come. But it has labored under the mantle of constantly changing leadership for, I believe, 11 out of the past 13 years. It had 11 new principals over the past 13 years, something like that, and as a consequence the school vision, the school culture, everything is constantly in transition. It appears very much to be a negative and a positive, we also found. The best school that we looked at by far had dynamic, positive, strongly committed, passionate leadership with lots of energy and they made all the difference in the world. It was evident from the moment you walked into the school.

The school culture, which of course is a reflection of leadership values, is very important. If you have a caring, compassionate environment, which we found the best possible school to have, you appear to get much better outcomes. We also found, just as a subtext of this, that an excessive focus on discipline appears to alienate students and undermine trust between students and teachers. It's an element of the culture that needs to be looked at and considered because, when there is that dynamic of trust and teamwork—“we're all here to build a better future for you”—that appears to be very positive. I mean, it's inarguable: of course it's positive.

The premise of KERA that high expectations are important held up very strongly in these schools. We certainly saw strong evidence that if you have low expectations your outcomes are going to be pretty low, because the worst school we looked at, and it was quite bad, appeared to have very, very low expectations across the board.

Strong guidance counseling systems were very important. These were systems that motivated kids. Now they weren't necessarily traditional systems. We saw a couple of nascent teacher-to-student guidance counseling programs where students are paired with teachers as they enter as freshmen and they go all through high school with a guidance counselor. Happily, one of those schools has figured out that if there is a bad relationship right there from the beginning, they let these kids change guidance counselors. But those systems appear to be quite new. We don't really know how well they're going to work, but the schools that appear to have the most successful efforts to encourage young people to go on to college have really strong guidance counseling units. I likened the “performing-

as-predicted” school, the guidance counseling team there as being aggressive, nagging, surrogate mothers, and they certainly were. They were nagging these kids all the time to get an application in; there was a lot of prodding and pushing, and that appeared to be very effective.

We also found that students that had a more realistic knowledge of the cost of college knew what you get out of a college education. Do you earn \$14,000 a year on average or do you earn \$50,000 or more? The kids from the low performing schools had some pretty unrealistic ideas. The higher performing schools appear to have young people who had a complete grasp of how much it costs to go to college, a more thorough grasp of financing, all those kinds of things. Programmatic responses that are geared specifically to increasing college-going rates also appear to be very effective. I list AVID there, Advancement Via Individual Determination. This was a terrific program. Granted, it only had 30, 40, 50 kids in this particular school I looked at, but this was a model worthy of replication. Young people enter this program as they come out of middle school. Their entry into the program is based on achievement test scores. These kids have performed very high on tests, but their performance academically, their grades, looks pretty abysmal. Their performance is not really a reflection of their capability. They bring these kids into this program; they sign contracts with their parents; they agree that they will attend all their classes, do their work on time, and do their best. The testimonies from these young kids were remarkable. This program made a difference in kids’ lives. They raised their grades. They were confident. It was just a terrific program in this particular school. It was working fantastically. This is our “performing-as-predicted” school.

The other school that Corrie and I went into that’s the best possible performer, we think, had a program like this, and they’re still doing some work with it, but the formal structure of the program appeared to have melted away. We also found that diverse outcomes-oriented extracurricular activities can play a very positive role. Site visits to colleges were an element of some of these activities that appeared to be a positive influence on kids’ lives so that they could see that college isn’t a big, threatening, menacing world. They got to see what college life is like on the ground, and it was a positive experience for many young people.

Good teachers make a terrific difference. We asked these young people what made a good teacher specifically, and the most important thing to them is that the teacher evidences that he or she cares. Nobody’s putting anything over on these kids. If you don’t know the subject matter, they know you don’t know the subject matter. Many of them, and with good reason from some of the classes I observed, indicated that too many teachers focus on their lesson plans, on progressing through a mechanized plan, and not nearly enough on whether the students understand the material that is being presented. They also had complete disdain for a favorites-approach from the teacher, which is apparently not all that uncommon.

We also found that individualized instruction, which we’ve been trying to move toward in this state, is not being used (see Appendix C, Smith-Mello, slide 6). We recognize the value of different learning styles, but these are merely documented. This is all on paper at the moment. We saw no evidence that this was being implemented in a broad-based way.

Mentors from diverse backgrounds are a very positive influence. What students think about the affordability, even the possibility of going to college, or whether or not their parents or their teachers are indifferent about their futures; these things affect their perceptions of what they should do after high school. Interestingly, as an aside, we ran into one young lady in the worst-performing school who told us that she had never believed that she could go to college. No one had ever told her she could. She was a senior in high school. She got on the Internet and discovered that she could go to college and she did it all on her own; nobody had ever introduced the possibility to her.

The condition of the local economy is significant as the multiple-regression showed, and very important, in both of the schools that are performing at the predicted level or well above the predicted level. The perception in that economy was that there were too few opportunities in the mid-range school. This is an economy that has been buffeted a great deal. They’ve lost a lot of jobs and it’s had an impact on the lives of these kids. They want a better future for themselves and they’ve made that choice based on what they’ve seen. They told me that there was not a person in that school who had not been touched in some way by the economic devastation in that particular town.

The presence of a college locally is important, and it’s got to be really close apparently to have a strong influence. A couple of these schools had colleges within 20, 30 miles, and it doesn’t seem to have as much of an impact as it does if you can throw a rock at it. Parental community involvement also appeared to be positive. The lack of school resources may or may not affect outcomes. We saw a school that we think would be a much more dynamic, positive school were it in possession of all the resources it needs. This may be a purely female take on this, but the best school we looked at had a tremendously appealing physical environment.

We will deal with this in some depth in this report, but the demands of work on student lives is a very significant factor. At least a third of the young people we interviewed are working from 20-30 hours a week and sometimes more. It’s having a profound effect on their lives and, as a footnote, principals tell us that they believe that students have no incentive to perform well on the CATS test. Students tell us something altogether different. But principals also believe that the key criteria for the state-sponsored scholarship actually is discouraging—and I believe this is a pretty widespread conclusion now—advanced placement (AP) coursetaking, just the opposite effect that we were hoping it would have. Corrie Orthober. . . .

Corrie Orthober

My piece in all this is teacher transcripts. Some of our research questions and the selection criteria for the schools I am evaluating are shown on this slide (see Appendix C, Orthober, slide 7). Some research questions that guided this study: Does teaching out of field affect college-going rates? Are the academic histories of teachers linked to college-going rates of their students? So we selected the high schools that I'm working on. I'm looking at one underperforming school and one overperforming school so far. As Michal spoke of earlier, the underperforming school was selected from schools who were sending far less students on to college than the model predicted, and the overperforming school is sending far more students than predicted on to college.

So the methodology for the teacher transcript study is that I'm examining teacher certification files (see Appendix C, Orthober, slide 8). What I'm looking at are the courses that the teachers have taught this past year, the teachers' certification status, their academic preparation, and how I'm chunking that is GPA and their undergraduate and graduate coursework. This is still a work in progress. I've only looked at two schools, one overperforming school and one underperforming school, and, as we progress I'll be looking at more schools.

Some of the findings that I've found so far are very interesting because the two schools are very similar in their GPA (see Appendix C, Orthober, slide 9). If you look at the average GPA for the underperforming school, the undergraduate level is 2.9, whereas, the average GPA for the overperforming school is 2.7. So there are not that many differences. The undergraduate major at the underperforming schools is 3.1 and for the overperforming school is 3. As far as graduate work, the average GPA for the underperforming school is 3.6 and the overperforming school is 3.5. It's interesting, though, because the underperforming school's just slightly 0.1 of a point higher, maybe 0.2 of a point higher on a few of these, but overall they are very similar. The average number of years that teachers are teaching at the underperforming school is 12.3 and at the overperforming school is 12 years. Now, how I looked at the percent of teaching in field is I'm looking at the courses that the teacher is teaching based on their certification. And, in the overperforming school, as you can see, 97 percent of the teachers are teaching in field, and in the underperforming school 90 percent are teaching in field.

Some preliminary conclusions, then, are that we find no significant differences in academic histories of the teachers from the over- and the underperforming schools (see Appendix C, Orthober, slide 10). We find no significant differences in the extent of teacher experience, which was very interesting. And we find that for those teaching out of field, some are just teaching at a different level than what they are certified to teach. I have middle and elementary special education up here, as an example. There was a teacher who is certified in middle school social studies, but he or she—I don't know their gender—was teaching a history class at the high school level. So, yes, they are technically teaching out of field because they're just not certified for high school social studies, but yet the content is still the same. And, also, when we look at the elementary special education level here, there were a few teachers who are certified in elementary special education, but they're teaching high school special education. So, when I investigated, the classes they are teaching at the high school level are special ed. These people seem to be teaching what I would call the special education, self-contained classes; students who have severe learning disabilities or severe handicaps that would keep them from the other classrooms. So, when looking at that measure, it's fuzzy. Technically they're not teaching in field because they're not certified for high school, but when you look at what they're certification and coursework is, it's fuzzy.

An interesting conclusion or finding so far (see Appendix C, Orthober, slide 11) just from these two schools is that the level of regional attachment may be the most significant factor. The majority of the teachers in the overperforming school are graduates of the high school that we're looking at. They attended regional community colleges, regional colleges, and universities; whereas, at the underperforming school, they're not graduates of that high school. They're graduates of various high schools and various colleges and universities throughout the nation. It's an interesting finding, and, as I progress with these other schools, I'm going to keep this in mind and see if any of these trends hold up. (**EDITOR'S NOTE:** This was a preliminary conclusion based on data from only two schools. As the data from four more schools have been added, this conclusion has not been supported by subsequent analytical results).

Skip Kifer

I'm going to talk a bit about the piece of survey research that was conducted by the Long-Term Policy Research Center that had to do with postsecondary plans of Kentucky's students. This is a huge survey; so I hope you brought your dinner with you so that I can tell you about all of the results. But I just thought I should give you some flavor of the kinds of variables that are in the survey and then perhaps a couple of findings and then leave. They are variables that students reported to us: what their grade point averages were; what advance placement courses they took; or what kind of courses they are taking. There are variables that could tell us how they spend their time. Do they like to hang out or do they like to do homework? There are variables that talk about computer use and variables that can be called attitude questions—questions about where they're going to go, what they're going to do after high school, and why they're going to do it. And there are background variables that have to do with gender, race, income, and parents' education. There are others as well; I should tell you, but that should be enough to get started.

There are about 1,100 students in the sample that, if you look by grade level, essentially they're 11th and 12th graders; by gender, we have more women than men; and by income, the majority of cases fall between \$20,000 and \$70,000. As an example of how these data might be used I did some tallies under a title I call "Brain Drain." There's a question in the survey that asks, essentially, "Where do you plan to go to college?" and there's a breakdown between public community or technical college, public four-year university in Kentucky, private four-year college in Kentucky, four-year college out of the state, and a trade or business school. You can see that they're not sampled equally by any means. The majority of them are students that say they're going to go to a public four-year university, but, interestingly enough, there are about 18 percent of them, I guess, plus or minus the margin of error, who are going to attend school out of state. So I was interested in who those students are and what they might have said to the various kinds of questions on our questionnaire, and, in a way, I was interested in two kinds of brain drain.

Since I thank you very much for paying your taxes, so you will pay my meager salary, I'm interested in the brain drain from the public universities in Kentucky to the private schools and I'm also interested, of course, in the brain drain from Kentucky to outside of Kentucky. So let your eye scan down the two columns, the private four-year college in Kentucky and the four-year college out of the state, then look at the proportions of students who responded to these questions. One of the things you see, for instance, is that the kids that are going out of state say at least that they do more homework per week. Likewise, they've taken Algebra II; chemistry or physics; and a foreign language; and a higher proportion of them have taken advanced placement courses. Likewise, their GPAs are reasonably high, and, although we don't have it in the survey, it's likely that those GPAs were considered to be from more traditionally rigorous courses than you might find from some of the other areas.

When I looked at that, I saw a pattern, and I've done some analyses that I'm not going to bore you with. It shows that there is a pattern that makes one think that both groups, the private four-year college group and the four-year college out of state group, have different patterns of what I call "academic things." They seem to be more prepared than are those who are going to attend four-year universities in Kentucky or who are going to a technical or business school. I thought I'd show you some things they told us about themselves. I like the responses to: "Do I feel overwhelmed by all I have to do?" We have some students who aren't having much fun across the board. But, interestingly enough, the questions about "I have to move out of state to succeed," and the question about "I have to leave my hometown or county to succeed," are endorsed at a much higher rate by the students who say they are going to attend out of state schools than by those who are going to stay in the state. But 60 percent of the students who say they will leave the state say they have to leave their hometown or county to succeed.

I guess what's interesting here is that every time you look at survey data, you find responses like that and all of a sudden you would like to ask some more questions about this and unfortunately, it's one time only. The reasons for attending college are interesting as well. Though I'm going to draw some overall interpretations for you as you look at those individual numbers, one of the questions you can ask about a table like this is, across the group, what are the reasons that students are giving for going to a particular kind of college? What you find out, if you ask, is that the most positive reasons they give are "I want to get a rewarding, challenging job" and "I want to make more money." The next positive is "I want to train for a specific career" and "I want to learn more about things that interest me." The least endorsed item is, in fact, "I want to get away from home."

But notice that's looking at the questions across the group and ignoring what the groups in particular say. And then that gets really pretty interesting for this group that say they're going to go out of state to college. For instance, they're 15 percent less likely to say they're going to college because their parents want them to. They're almost 10 percent more likely to say, "I want to become a more cultured person." There are 10 percent fewer of them who say, "I want to make more money." Seven percent of them say, "I want to train for a specific career" and 21 percent more say, "I want to get away from home." So you've got an interesting pattern here. The students who seem to want to leave the state are students who look as though they may have accomplished more academically in secondary school. Plus they've got a pattern of reasons that look more like a general education liberal arts orientation than a technical or economic rationale, as opposed to some of the other categories. It raises some really interesting issues for me, this pattern result, some of the things that, when Steve writes these up, I think we might ask. And an obvious one is that it's possible that each and every state has a brain drain. So to go out and look at some of these other studies and see if that's the case would be an interesting way to place these findings in a context.

A second thing is I wonder whether these patterns say anything about Kentucky's public universities, especially my employer, because I'm a colleague, and I think your data might suggest that if you want to be a good university, you probably ought to start first with your undergraduates. You ought to make it so enticing and so marvelous that the best students in your hometown or your home state want to come to your institution, and, as you know, it seems the policies in my esteemed institution go counter to that.

The third thing that I wonder about is how realistic are these responses to these data. *Metropolitan Life* has done a rather interesting survey. I can't imagine why they're doing things like this, but they had students talk about their postsecondary plans. They also asked their parents and their teachers about the same and it was interesting that a very high proportion of the students had very high expectations for further education. But the parents, when they

looked at their own children, seemed to think that the children were overestimating by a substantial amount. And finally the teachers thought that both the kids and parents were overestimating, so it was a really interesting thing to see that depending on the perspective that you're looking from, that's where you get your expectation.

I'm going to finish, Steve, by that last slide, the one that has the "What did you learn in school today?" just for the fun of it, to show you a couple of other items on it that the survey asked students. "Where did you acquire the following computer skills: using the spreadsheet to analyze data, format documents using the word processor, use the Internet to find information, and use e-mail to communicate?" Notice that the high percentage learned the first two in school, that almost two thirds used to learn a spreadsheet in school, 60 percent word processor, and then, when you look at the Internet, e-mail thing, the opposite is the case. They report that they learned outside of school. Now whether that means in the home or not—and we're bringing up what is called "the digital divide" or whatever it is—we, of course, don't know. But it's interesting to me because in fact schools do do things and schools do do things well, and I thought you ought to see evidence that some interesting things are happening there. When you ask kids how good are they at it, notice they feel really pretty good about using the word processor, Internet, and e-mail and, as you would expect and as all of us, they had difficulty with the spreadsheet. Thank you.

Amy Watts

As we work on increasing enrollments in Kentucky and the demand increases, the costs of meeting this demand are also going to rise. And, as public costs rise, so does public scrutiny of the program. This also brings about a need to identify all of the benefits associated with pursuing this type of policy agenda. Now we're all very familiar with the economic career-related benefits associated with going to college, and I'm going to talk about those today. But in order to really get a complete picture of all the benefits, we need to expand the discussion of benefits attributable to education to include those benefits that accrue to society as a whole. These are the social returns to investments in higher education and I'm going to use a benefit-cost analysis to analyze this.

First of all, I want to put Kentucky in a national and an historical context (see Appendix C, Watts, slide 12). As you can see, the demand for higher education in Kentucky has been growing. The percent of persons with a bachelor's degree or higher in Kentucky has been increasing over the past 20 years, but, at the same time, we see there is still a gap between us and the rest of the U.S. Another benefit fueling this increasing demand would be the monetary returns to education and we see the median income increasing by educational attainment level for Kentucky in 1998, as you go from less than high school all the way up through a bachelor's degree or higher (see Appendix C, Watts, slide 13).

However, this is just part of the picture and higher education contributes much more to society than the increased earnings for individuals pursuing advanced degrees. There has been a lot of attention in recent literature on education, but the idea that it serves a higher purpose in society is not a new idea. Even in the earliest history of American higher education, Jefferson argued that generally available education would have an equalizing role on American society, influencing the nation's democratic values while simultaneously preserving individual liberties. So, even back then, they were alluding to this higher purpose of education—how the benefits don't accrue just to the individual but helps society as a whole. Today what I want to do is present the project. Like we've been saying, these are still preliminary results, but I want to talk about the purpose. We want to provide a more complete understanding so that we could better inform funding decisions related to higher education.

How are we going to do this? Today I want to categorize some of these types of benefits. I'm going to use some empirical statistical analysis to identify the relationship between education and these benefits. I also want to quantify some of them and then, in the end we'll use a benefit-cost analysis to compare the quantified benefits to the social costs of providing education in Kentucky.

What are some of the economic benefits of going to college? Of course, there are higher salaries and benefits. We'll look at that today (see Appendix C, Watts, slide 14). Other economic benefits include employment, higher savings levels, improved working conditions and personal and professional mobility. Some public economic benefits are increased tax revenues along with the higher salaries, greater productivity, increased consumption, increased workforce flexibility, and a decreased reliance on government financial support (see Appendix C, Watts, slide 15). The highlighted ones are the ones I'm going to focus on today.

These are some of the social benefits and this is where it gets really interesting. Some studies have shown that we see improved health and life expectancy as education increases; improved quality of life for offspring, and we're going to look at both of these; also better consumer decisionmaking; increased personal status; and more hobbies and leisure activities. On the public social level, we see reduced incarceration and crime rates and this actually leads to an almost direct economic benefit, so this could go with the public economic benefits. Also we see increased voluntarism and charitable giving; increased quality of civic life; social cohesion; and an improved ability to adapt to and use technology, which is very important, as we've heard throughout this whole conference, in establishing Kentucky's place in the New Economy.

The first thing I want to do is look at the most familiar benefit. There has been a study done that's Kentucky-specific by Berger and Black in 1993. They used benefit-cost analysis (see Appendix C, Watts, slide 16). They only

looked at one benefit and found—and that’s just private earnings—a \$6.9 billion return on our General Fund investment. This is the present value of the annual earnings for the 1993 graduating cohort’s lifetime of working. On their total cost of schooling, they estimate an annual return of 186 percent, and their model also predicts higher earnings by education level, which we’ve already shown, even while controlling for everything else. You see the masters comes down just a bit. They adjusted for field, and they attribute this decline in earnings to the type of fields that most of the masters in their sample were going into.

As I was saying earlier, we also see increased federal income taxes paid by educational attainment of head of household (see Appendix C, Watts, slide 17). So the top portion is four years of college or more, and we see the share that they have been contributing over the past 20 years or so has been increasing. This is for illustrative purposes; these are still preliminary results, and I’m working on the Kentucky-specific part. This is national data. We see the share of taxes increasing by educational level. Of course, the share of household heads with four years of college or more has also been increasing over this time, so this could help explain what we see in this particular graph. Krop, in 1998, out of Rand, studied this at the national level and his model estimated the average annual federal income taxes by educational level increasing as you go from less than high school to college (see Appendix C, Watts, slide 18). This is national level data, also. But, even controlling for other factors that could affect the amount of taxes paid, we still see an increase related to education.

The same study looked at incarceration rates or the cost of criminal justice (see Appendix C, Watts, slide 19). This is an average expected value over all persons, so we’re looking at the probability someone will be incarcerated combined with the amount that we would be spending per year to fund that incarceration, and that goes down considerably. Especially, we see, of course, the biggest difference as we go from less than high school or high school dropout up to high school graduate. Also, on the public economic benefits, we see expected value of annual per person costs of welfare, and this is for women only (see Appendix C, Watts, slide 20). This is also national level data from the Survey of Income and Program Participation. Even though the biggest increase that we get comes from the educational move of less than high school to high school, we still see some benefit of going from even just high school to some college and from some college to bachelor’s degree or higher. Now this is lifetime and I do realize that these payments will not be made over a lifetime, but the average age in Kentucky is about 30 years old and that’s when we get the greatest benefit.

Now I also talked about health outcomes. We’re looking at smoking as a proxy for health, and I’ll get to that in a minute (see Appendix C, Watts, slide 21). We see the estimated predicted and actual probability of Kentuckians that smoked in the last 30 days by educational attainment level and this declines with increasing education. Even when we control for other factors, which is predicted, we still see this considerable decline. How could this help us? Because some estimates of health expenditures directly attributable to tobacco use in Kentucky have ranged up to \$1 billion (see Appendix C, Watts, slide 22). Some other estimates are the state and federal tax burden caused by tobacco-related health costs, \$520 million. And the public expenditures of Medicaid payments directly related to tobacco use have been estimated as high as \$200 million.

Another public social benefit would be voluntarism (see Appendix C, Watts, slide 23). Our model predicts that, as we increase these educational levels, the hours that a person will spend volunteering also increase. Using average wage in Kentucky as a proxy, we can value this. So this is like free labor that we would be getting back on our investment in their education.

We’ve been talking about the New Economy the whole conference, and we see a significant increase in the probability that a Kentuckian will have access to a home computer or will have used network services (see Appendix C, Watts, slide 24). This is from 1998, the Current Population Survey, Kentucky-specific.

Using some survey data, we also found that the predicted probability of starting a business increases actually at the “some college” level, rather than the bachelor’s degree or higher. This model shows that some postsecondary education is beneficial even if it is below the four-year degree level (see Appendix C, Watts, slide 25).

The predicted probability of reading every day to children under 8 also increases and we see the largest increase if the parent has a bachelor’s degree or higher (see Appendix C, Watts, slide 26). That was actually the only one that was significant.

We also measured how education and health are related using some health-related quality of life scores that were based on the self-assessment of own-health through answers to various survey questions—the higher the score, the better the health outcome. We see this in three different measures (see Appendix C, Watts, slide 27). The average score for persons who say that their physical health has not hurt their ability to work or go to school or work in the home increases as we go from less than high school to a bachelor’s degree or higher. We see that these persons with higher levels of education also perceive themselves to be healthier and their mental health scores are higher. These scores are predicted based on the varying demographic backgrounds of the respondents and they were significant.

Let’s look at some of the costs (see Appendix C, Watts, slide 28). This is the General Fund support for postsecondary education in Kentucky. If we look at just operating expenses and the instructional support and take the average over a four-year only, full-time equivalent (FTE) student, it’s about \$4,700. Then we can add in the other General Fund expenditures that go to research, medical, agricultural, and public service support and also

administration of the Kentucky Higher Education Assistance Authority (KHEAA) and the Council on Postsecondary Education (CPE). We could argue that those are also a part of the person's full instruction. But there are very strong arguments that really just the operating expenses and the instructional support can be directly attributed to the cost of an individual's education. Most of the research and medical support went to UK or U of L, and one other school got a significant proportion of the agricultural funding support.

Looking at just the operation and instruction costs and discounting them back to the present over four years, on average it costs about \$17,000 to educate the typical Kentuckian (see Appendix C, Watts, slide 29). I look at this for just four years because while I know that it usually takes six years for the average Kentuckian to complete college, this figure is based on part-time attendance. However, the costs used here are based on full-time equivalency status.

Let's look at some of the net present value of lifetime benefits of some of these relationships I've been talking about. First of all, we had the earnings. This is Kentucky-specific, and this is high school to college graduate only (see Appendix C, Watts, slide 30). This is the difference between the earnings that a high school male would have in Kentucky to a bachelor's. So if we increase a high-school-educated man's education to the level of a bachelor's degree, the model estimates that that person will earn approximately \$338,000 more over his lifetime. And it estimates a college-educated female's earnings at about \$150,000 more than her high school counterparts. For federal income taxes, this is from a national study, and it's around \$50-55,000. For welfare, I just took that over five years, and this is the expected value on average. This is over the whole population, not just welfare recipients, so it's rather low and it's over five years, only. For voluntarism, I projected the estimates to 75 years old, and that comes to about \$7,000 that we get back over a person's lifetime.

Let's take out the costs and look at the benefits (see Appendix C, Watts, slide 31). Just from those four that I showed you, we get benefits minus costs of \$380,000 and about \$190,000. Now if I take out earnings, because we want to focus on some of the social benefits, we still get a \$40,000 to \$80,000 return on our investment. If we just look at those two really interesting ones, the reduced welfare payments and the increased voluntarism, we're already up to about 45 percent of our initial investment. I haven't even included the benefits of reading to your children or the increased technology use or the decline in probability that someone will smoke. We see higher education leads to lower rates of incarceration. It leads to all these different benefits that we get—public, private and overall. For all these different types we see positive returns to investments in higher education.

Now, I still have some future work. We need to quantify some of these social benefits and do it at the Kentucky level, estimate the returns, and hopefully give a more complete picture so that we can better inform funding decisions related to higher education and meet this growing demand.

Sue Moore

Melissa and I have been asked to react to the presentations today, and I have so many notes up here, I've confused myself. But I thought I would add one statistic—I think you all have gotten more statistics today than you know what to do with—and then take us back to the title of this session which is what can we do to increase the participation in postsecondary education. I think the case has been made pretty clearly that we need it for all Kentuckians. Then just a couple of specific reactions, one, Skip, to a comment you made and one for you, Michal. The statistic I have gets to the point of the leakage that's in the system. Mike Childress talked this morning and Steve talked about needing an additional 80,000 students in our system to get Kentucky to the national average by 2020 in educational attainment and college-going rate. But there are a lot of forces that, as you can see, are working against that, and one of them is the leakage in our system. So I'd like to ask for your help, and probably by this time in the afternoon you want a little stretch anyway. Would you all mind standing up, please? And, right now, you are the 9th graders that are in our secondary system. So, please take a look around first of all, everybody, and then would all of you on my left sit down. OK, so all of you did not make it to graduation in high school. You're the leakage in our secondary system. You've dropped out.

OK, now this gets a little tricky. I want half of you to sit down, so those in the back of the room, let's say about halfway up, you sit down. OK, so what we have left here are the numbers who went on, and those of you sitting cannot fall asleep now. Those of you who are standing are the ones that went on to some form of postsecondary education in our system. And, now, I want about half of you, let's say, the ones toward the middle aisle, you all sit down and that's how many have graduated with a bachelor's degree from our system out of this whole group that entered the 9th grade. So you can see that we have lots of challenges. I think the data that we heard here today just reinforces what we have facing us.

So what is it we can do? And what is it that the Council on Postsecondary Education is doing? Gordon Davies talks about three levers that we have: money, praise, and embarrassment. I'd like to add partnerships to that in a minute and take us back to some of the comments that were made this morning. In terms of money, one of the things that we've done at the Council over the last year to encourage our colleges and universities to go out and increase enrollments, in addition to setting the goal of 80,000 by 2020, is to tie money to that. We have an enrollment for open retention trust fund that institutions qualify for if they meet the goals that have been set for each of the

individual institutions, but they can't just bring them in; it's not a revolving door. It's also tied to retention within the system and within each individual institution. So, that's one thing that we have.

Praise and embarrassment I guess can go hand in hand, and one of the things the Council is working on right now is the development of a set of what we call key indicators of progress. Are we getting to where we need to be on the path that Kentucky Higher Education Reform set us on? And we frame these indicators around five questions. Are more students ready for college? Are they, in fact, enrolling in college? Are they advancing through the system? Are they prepared for life and work? And are Kentucky's communities and economy benefiting?

Now, think about that first question. The first question is, are more Kentuckians ready for college? The postsecondary system is taking responsibility for something that is happening up the pipeline, I think for the first time. I think that that gets to the comments that were made this morning about the need for partnerships and working together. We're no longer pointing fingers at one another and saying, "No, you're responsible for getting them ready, and, when we get them, then we'll move them through our system." Our colleges and universities have said, "We want to take responsibility for helping to get them ready," for the preparation of adults and of recent high school graduates. We're looking at test scores, the ACT and CAP and then the number of students that are taking advanced placement, college courses for dual credit, as well as the percent that are taking the ACT Core, which is rigorous course work. So I think it's pretty significant that we really are all working together and taking responsibility for that.

And then, on the partnerships, a couple of initiatives play into the discussion this afternoon. One is the public communications campaign. The Council, the Kentucky Department of Education, it seems like all of state government, as well as businesses and local communities, the Kentucky League of Cities, and the Long-Term Policy Research Center are all working together to put together a major statewide public communications campaign to get more kids and more adults into college. We can't reach the 80,000 increase by simply increasing the college-going rate to the national level. We have to reach out to the million adults that we've talked about this morning who are functioning at low levels of literacy. We need to bring them up, make them college-ready, and then bring them into the system as well.

The Gear Up Grant that you probably read about in the paper is a major initiative of the Council on Postsecondary Education and the Kentucky Department of Education. The federal government funded \$10 million, which was matched with \$10 million of resources from Kentucky schools, colleges, and universities, all geared toward disadvantaged middle school students to increase the college-going rate and completion rate of those students. That program involves an awareness program and Gordon likes to talk about three people. They are the ones that know they're going to go to college, but just don't know where yet; those that are trying to decide whether they want to go to college; and then those where college is not even on the radar screen. I would think that most of the students that the Gear Up Grant would benefit are the ones that are in that third category.

Just a couple of things I wanted to mention. Skip, you mentioned the brain drain and talked about the drain from public universities to the private institutions. From conversations that we've had as we've developed the key indicators, one of them is retention rates. Does it matter whether a student stays in a college as they enter in the fall, whether they're still at that college a year later? That's our traditional definition of retention, but what seems to be emerging is this new idea of whether it matters if they're still at that same college or university as long as they're somewhere. We contract students from public to independent in Kentucky and from independent to public and community college. But there's also a new database available from the federal government, the National Student Clearinghouse that will allow us to track students anywhere. So they could start at a community college in Kentucky and we'd know that they're not gone; they haven't disappeared. They've moved out of our system, but they may have crossed the river to Indiana or Tennessee. So we think that's something important to track, just to make sure they're somewhere. It doesn't matter where, as long as they're somewhere.

And, Michal, you talked about the AP courses and the disincentive for students to take that because of KEYS. One of the initiatives that the P16 Council is undertaking is a group that is made up of members of the Council on Postsecondary Education and the State Board of Education. They are trying to fold in CAT scores into the KEYS program and we're doing a study of the predictive validity of CAT scores in predicting college success. So we hope that some of that will create an incentive not only for students to do well in high school, but also tie it in with the financial incentive.

Melissa Evans-Andris

I just have a few real comments based on what everybody's said. And what those are is that, number one, there's no doubt, it's clear that there are individual and social benefits for students moving on to higher education and higher educational attainment. We've heard also from Dr. Moore that there are quite a few facilities and avenues available to ensure that Kentucky offers students a viable cap to help them get to college.

The point that I'd like to make or at least reflect and offer to you based on some of the other presentations that I've just heard is a notion pertaining to what a sociologist would call "social capital." Social capital is the degree to which a student can build and sustain friendships. Now when you think of high school students, we all just imagine

that they have no trouble building these friendships. But friendships should also extend not only just to their peers, but also to educators, counselors, adults, and other important people in their life. When we think back to Michal's presentation, she found that there were strong linkages possibly in her ethnographic work in high school to suggest that the high schools that were offering high expectations for their students were the high schools that offered strong guidance that pestered and nagged their students. The high schools where students demonstrated a high degree of knowledge about college were where students perceive the possibility of going to college to be feasible and realistic. The high schools that offered mentoring programs were where there was a high degree of parental involvement. Those are the kinds of characteristics we might also associate with social capital among students, that they can build and sustain friendships that will provide them with high expectations, strong guidance, mentoring, and so forth.

Corrie's presentation on the quality of teachers also indicated that the schools where there was a higher than expected college attendance rate among students had teachers who, surprisingly, had gone to the regional colleges, as opposed to looking for education elsewhere. And they also had attended their own local high schools. This suggests to me that those teachers also had social networks and community engagement and were very interested in returning and offering back to their own community. Again, this goes back to that notion of social capital. The more friendships and networks that we can build and that we can help our students build, it seems likely that we will get higher returns in that we will be sending more kids on to college. Not only sending them on to college, but those students that are better apt to sustain social capital and enhance their social capital in college will be more likely to stay there and complete. Thank you.

Stephen Clements

Thank you all very much. We will have a few minutes for questions, comments, etc. from the audience. I probably should have pointed out before we got started that this is not just a research project for the Center, but it will eventuate in the early part of next year in some publications. I'm not sure whether it is going to be a single volume or multiple volumes, but Michal and Corrie and their work on the field studies of the schools will be one component of that. Amy's cost-benefit analysis will be another component of that and Skip and I are going to write up the material from the survey. So in the early part of next year, look for those publications to emerge from the Center. First of all, before I open it up to you, I want to offer any of the panelists any final chances to interact with any of the others. You all set?

Questions, Answers and Comments

Questioner

I guess the question is, is there a relationship between, in these data, family income and college choice?

Skip Kifer

All right. Let me think for a minute if I've looked at that. I think that students with mothers who were more highly educated tended to be students who accomplished more academically and were more likely to be in that group that would leave the state and/or go to the private schools. Students whose fathers' education were higher were likewise inclined. In fact, the higher the income, the more likely they were to be either in the brain drain or the private schools. Now, to say something's related isn't to say that it's determined, and those relationships are modest at best. There is something less than correlation between ACT scores and performance.

Sue Moore

Her observation was that college is for everyone and she was asking is that the message that she was hearing. In my opinion, it is. Some form of college—and that can be a four-year baccalaureate degree, a one-year certificate program at a technical college, a six-month module of IT instruction that gives someone a marketable skill, or just your traditional liberal arts types of degrees—but, yes, I think it is for everyone.

Melissa Evans-Andris

I was thinking that maybe even the more important question is that the opportunity of college is for everyone definitely and that's what we really need to work on there.

Skip Kifer

Actually, is graduate school for everyone? Because at the turn of the century, 1900 not 2000, I think about 5 percent of the population got secondary degrees. So 100 years ago you could have asked the question, is high school for everyone? The proportion of students who complete a secondary education has increased about 10 percent a decade.

Now, it's up around the 80s. Likewise college participation has increased, so the year 2000 with maybe half the high school graduates at least entering at least some form of postsecondary education, you're asking the question, is it for everyone and maybe you should say, is graduate school for everyone? We don't have any data. I mean, we're going to try to look at other states and see whether or not they experience the same kind of phenomena that Kentucky does, but we don't have data in our study about who comes in.

Melissa Evans-Andris

We just learned about this database, the National Student Loan Clearinghouse, but my understanding is that about 80 percent of the students in colleges and universities across the United States are in it. It's not just students who have student loans. It's a database of those enrolled. It's a voluntary participation of colleges and universities and I think, as I said, up to this point about 80 percent of the students are represented by the colleges and universities that have chosen to participate. So it seems to me that it would be a rich source of information.

Corrie Orthober

I'm still in the early stages of this. You asked, are we going to link the brain drain with the economic effects of the leakage? No, we haven't. That's a flip side of what we're looking at. That would be where we would want to go.

Stephen Clements

You haven't to this point discovered data sources that would allow you to answer that question. Right?

Corrie Orthober

We haven't really investigated it. It's beyond the scope of this particular study. There are several caveats and several issues that are beyond the scope of this study, but are still very closely related. No, we're not looking at that.

Skip Kifer

Apparently Lazio had a program in his congressional district where a lot of students were leaving the congressional district to go to college, and he instituted all sorts of things like summer jobs to get them back and make sure that some of the talent didn't leave the community. I don't know of any initiatives like that in the Commonwealth.

Michal Smith-Mello

Nationally, actually, about 60 percent of kids who go away to college end up staying and working in that general region.

Corrie Orthober

I don't know the name of the organization, but I think one was just formed within the last year with the sole purpose to do just that. Cowie King's organization in Louisville is looking at finding the students who have left Kentucky and trying to bring them back.

Stephen Clements

I would add as well that I have heard Ron Crouch talk about this and one of the points he makes is that, of that seven percent that go out of state, a not inconsiderable portion of those are people who live around the edges of Kentucky and go just over the border into other states. So in one sense, they're not going very far away. They're not going to Oregon or Massachusetts or whatever, which I think probably suggests that some of them will end up staying in Kentucky, but I don't know what the exact percentages are. Other questions in the few minutes we have left.

There are some interesting dynamics going on. I've talked to a number of student technology leadership program people hither and yon around the states and they keep telling me that the technological well-prepared high school students can come out and make \$50,000 a year. Now, that's going to have a depressive effect, I think, on your postsecondary attendance rate.

Michal Smith-Mello

One of the high schools that we looked at, the mid-range, the school that's sending its predicted number of kids on to college, are losing a lot of young people to fiber optics, laying fiber optics cable. There are lots of jobs available in that particular area.

Stephen Clements

And I would assume that's not a bad thing.

Michal Smith-Mello

Not a bad thing. It's about \$35,000 a year entry level job with a high school diploma. I would think at some point we'll lay all the cable we'll need to lay, won't we? Exactly. We're going to go wireless. We won't need it. Maybe they're the target audience the Virtual University ought to go after. They'll be most likely to take those online courses at 2:00 in the morning.

Stephen Clements

Is there another additional large step that we need to take?

Sue Moore

I would have to say, at the community level, the things they talked about on the panel earlier today. This is very much a community building process and we find this element, that Melissa wisely pointed out, of social capital playing such an important role in how effective these schools are at getting kids where they need to be. I mean, they aren't necessarily helping them sustain their college careers, but it's really important how involved people are at the local level in the schools, in the lives of kids, as mentors, and as business people in communities. It's critical.

Michal Smith-Mello

I certainly think there's a lot of room for additional investigation in that area. That's a point that we have brought up over and over again because, as Mike pointed out in the presentation earlier today, the kids who come out of economically distressed families are the kids that are most likely never to choose to go. And they're also the ones that are going to be the most stressed in college as well.

Corrie Orthober

When we were in the high schools selected in the case studies, that's a common complaint students had about not going on to postsecondary education—just financial reasons. I would say the majority of students who spoke about postsecondary education were concerned about paying for it. How are we going to pay for it? You're right, that was at the high school level.

Skip Kifer

One of the sets of variables that I didn't mention in this survey is a question about their knowledge of the different kinds of programs that are available for loans or scholarships or grants and I must say I would have failed that test. There's just an incredible array of those kinds of things, but I get the feeling that probably there's not a lot of knowledge about those possibilities, too. So that might be another thing to notice, how well informed are people about the various kinds of financial assistance they can receive.

Michal Smith-Mello

Yes, that's one of the things we've learned, too, and I think that's where this statewide public communications campaign can help, putting all of that information in the hands of the guidance counselors, the students, and the parents, so that they know what's available. I have this statistic up here, though, that tells us a little about the tuition in terms of affordability.

How Can Kentucky Create an Entrepreneurial Economy?

Moderator

Joanne Lang, Vice President, Kentucky Science and Technology Corporation

Panelists

James C. Seiffert, Attorney at Law, Stites and Harbinson

Randall S. Stevens, President, ArchVision

Joanne Lang

I am Joanne Lang, Vice President of the Kentucky Science and Technology Corporation. We spent a little bit of time working on the issue and continue to be pretty passionate about entrepreneurial-mindedness, entrepreneurship in Kentucky. With me today are two stellar panel members. Randall Stevens is founder and Chief Executive of a really interesting company he's going to tell you about, ArchVision. Jim Seiffert is from Stites and Harbinson, headquartered in Louisville. Your law firm is much broader than that, I know. Jim will tell us about his role in supporting entrepreneurial creations in a lot of different ways, in particular, using these two as a case study because actually they work together.

I think part of the vision of how you create an entrepreneurial economy is to see how it's done. Here's an example of one way that we can do that. We obviously still have an hour and a half; that is a long time to sit and I encourage you to get up and walk around when you need to, so that you can stay focused on the message that these folks have to tell us. I am going to start by sharing a little bit about how we think about entrepreneurship. My company is the Kentucky Science and Technology Corporation. We are an independent nonprofit company, and, when we say nonprofit, we use that clearly as a tax strategy, not a business strategy.

So how do we earn our money? We earn our money by our ideas that advance science and technology any way we can. We do it with our mission of looking at education, K-16, all levels of education, supporting research and development for our universities, and looking at that third function and stream of activity of economic competitiveness, and how we can add value to the economy through science and technology. That, in short, is our mission. All other organizations like ours, that we're aware of across the country, whose mission clearly is a third sector support for entrepreneurship science and technology innovation, in some way are tied to government. The board of directors is appointed by the governor, or is an arm or agent of a university; those modes work as well in other states. We try to work in partnership with all the public sector, although we're not part of the public sector. We work in partnership with the education sector, although we're not part of the education sector. We work in partnership with the business community, although in the nonprofit arena from our perspective.

So our mission is really about advancing science and technology, and, in that third area, that kind of competitiveness is how we got focused on entrepreneurship; in the last probably five, six, seven years really focusing on how can science and technology help advance this entrepreneurial economy, whatever that happens to be. And in starting in much more earnestness, how do we get serious about entrepreneurship in Kentucky? Knowing all the arenas that we deal with—business, education, policymakers—how do we craft and create a definition of entrepreneurship that can work just as well talking to a high school principal as a CEO or a policymaker, Arnold, in local government or in the state government? So we look at this definition and play with actually every word of the definition because it has meaning for us as we try and figure out what this entrepreneurial economy is. And we look at entrepreneurship as the unconstrained pursuit of new ideas resulting in an innovative creation.

The traditional sense of entrepreneurship is the company, but it also could be a new policy, a new way of hiring people, a new instructional strategy, whatever you want it to be. So it's not just being an entrepreneur, it's being

entrepreneurial-minded. In part, it's how we create that entrepreneurial economy. It's not only creating companies, like you're going to hear about; it's the support given to those companies to help them grow. It's also an approach, an attitude, and an entrepreneurial-mindedness that can help change and add value to—not take away, not throw the baby out with the bath water—our culture of how we plan this New Economy, whatever that New Economy is.

So with the unconstrained pursuit of new ideas—unconstrained, not reckless—there have to be times in our policymaking, in our company development, where we not only step outside the box, but temporarily we suspend what we know about that old box and create a new one. Don't give up on reality because obviously you have to get back inside that box at some point. But hopefully, when you step outside the box, you create ideas that are of value. I know we had an interesting conversation last night about not just crazy ideas for the sake of crazy ideas, but ideas that are going to help build the company, a community, a family; ideas that are going to help children learn in ways that they are going to be able to create their own culture and their own future in this knowledge fund. And so the average pursuit of new ideas is really a very serious way in some ways.

I became familiar with a company in Switzerland in the last couple of months called the Brain Store. That



company comes up with ideas for a living, helping companies come up with new products. Who do you think the brainpowers or the mind power is? What source do they use to come up with new ideas, new strategies? Take a wild guess. His children. Why? Creativeness. They're not constrained. The natural inquisitiveness is the heart and soul, we think, of entrepreneurial-mindedness. And what are we doing in our education arena and the box we're in now in education to help or hinder that kind of creativity? What are we doing in our businesses that help or hinder that kind of creativity? What are we doing in our policymaking to help or hinder that kind of creativity? Do we really turn to youthfulness as an asset or a liability in coming up with those new ideas?

The fact of the matter is sometimes you need both and we need to give a value to all sources of ideas and stand ready to at least be open to what everybody has to say. So our definition of entrepreneurship has driven a lot of our thinking in how we create that entrepreneurial economy. It's not just one sector, the economic development officers that are going to change and help us weigh in the knowledge entrepreneurial economy. It's all sectors working together in a partnership of sorts. And so you think of entrepreneurial-mindedness and growing companies and valuing ideas. Well, why do we need to do that? The fact of the matter is the world that we live in has changed and is changing rapidly.

I can remember doing strategic planning in the last decade for higher education and I was looking at the year 2000. We were going to get ready for the year 2000. Things were going to change in the year 2000. Well, 2000 is here. The world has changed, is changing rapidly. How many of you have a cell phone? I think everybody in the room raised their hands. Probably some of you have several and a pager and a computer and everything that you need to communicate. Our world is so fast-paced. Why do you think that is? Why do you have a cell phone? Because it's available. Anybody else? Emergencies. Speed. Stay connected. Speed. You can walk down the hall here and still save messages.

The speed with which the world is spinning, it's going so fast; but the old joke is that it's going so fast we can't keep up. There's no time for reflection. I wouldn't know if I saw a good idea if it hit me in the face. How do we deal with that? To understand that the knowledge that we have in those reflective moments is absolutely critical in coming up with new ideas, and, if we go so fast and let technology overtake us because it's there, then we've missed many, many opportunities. The capital, if you will, of the New Economy is what's between your ears. The knowledge economy is about knowledge and it indeed is a force for economic change.

In trying to think in terms of broad, broad audiences about economic development of entrepreneurship, what's different about this economy from the industrial economy is that you can never use up the raw material in this raw economy. Knowledge and ideas will never be used up. You can only add to them. Randall may have a thousand new ideas for a new product. It doesn't mean he picks one and throws the rest out. He's got a bank full of 999 other ideas that can help fuel products in his company. They can never be used up, and so mind power is really, really valuable. It's a matter of really looking at, continuing to look at and create new and innovative technologies by valuing ideas, any idea, no matter how absurd, seemingly, potentially is of value.

There is a quote from Einstein that says, "If at first the idea is not absurd, then there's no hope for it." It doesn't mean you take an absurd idea and just take it, but usually the pendulum will swing far enough outside that box that when it comes back, hopefully it will come back in a position that is farther along in the knowledge economy than where you started. So the absurdity may seem crazy. The unconstrained pursuit of new ideas is for a reason, a legitimate reason. It's not just play; new ideas do count in order to get so far outside the box that you come back to a

position that's more advanced because that's where the new ideas and new technologies are coming from in this economy.

And so the notion that you can't use it up is the foundation not only for how you make money now, but also for creating new ideas in the future as well. There's another effort in the knowledge and entrepreneurial economy that I think is valuable for us, at least when we talk about entrepreneurship and the knowledge economy. The world, indeed, at least how we treat it and observe it, is very different than it was during the industrial era. And we're looking at this whole notion of the kind of world where it's much more about process than it is a specific product. You may start out to create something, maybe a new policy, a new company, a new whatever, but you may end up with something because of the process you go through and the creativity that is engaging in the process of creating that new company. It may indeed be very different than what you were inventing.

One final word of relationships and the coming together of things: Kris Kimel, our President of KSTC, is here today, and talked just briefly this morning about the Idea Festival. It's clearly not just a festival, not just ideas, but planned to bring together people. The process of coming together around valuing ideas from wherever they happen to reside, in whatever sector, is really a notion of looking at the world in more quantum organic kinds of ways, where it's all about relationships and processes. These slides are in this book, *Kentucky Entrepreneurial Capacity*, an annual report we started putting out two years ago. We're just trying to see where we stand. If we want to be entrepreneurial, we want to play now, where do we stand? Let's just look at ourselves from year to year.

What's important about these, each set of bars represents a different indicator and how we might measure and look at ideas and innovations. This is not meant to be the answer of how you measure entrepreneurial-mindedness and entrepreneurship in Kentucky, but a set of measures and what's important about these is they haven't changed much. That's a three-year period in 1997-1999, but they've been looking like that for at least the last decade. So what do we need to do if we're going to value ideas and really play in the economy of changing this? SBIR Grants did this innovation research program, a federal grant program for small businesses to continue and grow their research and their product development ideas. It is a major source that Kentucky has played in some time, but probably could have taken better advantage of these kinds of programs. On December 4th they will be in Louisville, holding a workshop on developing SBIR grants. The same workshop will be repeated on December 5th in Lexington. If you have any questions or you know of anybody that may be interested in these workshops, I'd be glad to give you more information at the end of this session.

But looking at SBIR grants, patents, and economic R&D, how do we invest in that? Looking at educational attainments, college graduates and high school graduates, again we're making progress. I think we've heard that message throughout the day here, but the trajectory is flatter than any of us, I think, would want it to be. And, so, how do we look at "gazelle" firms, those fast-growing companies? How many do we have and what employment does that generate? These are not meant to be the only measures that are used, but a set of measures to gauge where we are from year to year.

We examined what our needs are in the state, and asked how we can play and what do we do. On behalf of the Governor in strong partnership with the universities, and also in partnership with members of the private sector, many companies came on board to create what we call Kentucky's Science and Technology Strategies. How do we capture and make more investments in the mind power through the innovation process starting with R&D? From the prototype of an early commercialization of those new technologies coming out of that research all the way up to ensure product and company development, how do we create a package for ourselves as a state? What ended up happening was a set of strategies. I will give you the one-page summary of what ended up being the Kentucky Innovation Act. We took that science and technology forward and asked, if we were to do five things or ten things, what would we do?

I want to use this slide just to talk about the players in this. A new commission was created in the last General Assembly to oversee the implementation and accountability of implementing actions by the Cabinet for Economic Development, the Council on Postsecondary Education, and the Kentucky Science and Technology Corporation, and implementing a number of initiatives. But I'll use this slide just to summarize looking at three broad areas of enterprise development. How do we grow the enterprises and entrepreneurial companies through investments in our companies and universities? How do we wrap the commercialization process, adapt the technological infrastructure, and beef up the modernization of our manufacturing capacity in Kentucky? I will leave that for the Q&A if there are particular pieces of this that you want to ask about or talk about because I think it's important that we also hear from our other panelists here in short order.

Cluster analysis is something that we're doing to see not only where our strengths are in industry, manufacturing and nonmanufacturing industry, as part of the science and tech strategy, but also what our potential is for those industries that are dying out. What's the skill set that those folks bring, perhaps that can be used someplace else? So we wanted to look more in-depth at where industries are clustering, what our strengths are already in this state, and what our potential is. To look at a vision of the future, what else can we look at? Cluster analysis is underway as we speak and should be done early in the next calendar year. This was a proposal out of the strategy that I would like to at least bring up as a way of reminding people that 35+ other states in the country take a small portion of their

pension dollars and invest in new ventures. We don't do that in Kentucky. We have some authorization to do it, but we do not do that in Kentucky. If we took even 2 percent of the pension fund dollars that are available, we could put \$430 million dollars on the street to invest in new ventures.

When we talk about how you play in the New Economy, it's investing in that mindset and the development of those kinds of companies. We'd like to continue to propose as part of the strategy that was published to look at being sure that we know why we're not investing in some of our companies in these kinds of investments. A lot needs to be talked about in terms of educating ourselves about that. We propose to certainly continue to look at that as an option. Randall's going to talk next about his company, ArchVision. It's really a very exciting company and Randall, as founder of the company in 1991, has a wonderful story to tell, the perfect example of the kind of companies that can be created.

Randall Stevens

I usually don't need these, but I think they're taping it. Can you hear me? I'll just get my computer turned around here. Have any of you ever heard me speak before? I've done a few of these kinds of things. A little bit about myself, my name is Randall Stevens. I am a Kentucky native. I grew up in Pikeville, Kentucky, graduated from Pikeville High School, moved to Lexington in 1985, started school at UK, and ended up graduating in 1991 with a degree from the Architecture Department there. What I always say is the best time to start a company is when you have absolutely zero to risk and that's what I did. I started a company right after I graduated from the University of Kentucky.

Well, I get up usually and just tell a story of what we do and get people excited. We have been in the 3-D visualization business for those nine years, so the company was started with my background in architecture. My big bright idea was that I got interested in using computers to be able to show what buildings like this would look like before you build them, so I decided why not start a company doing that. It was just me, a computer, and software, so we've been in business now for nine years. We've done a few things right. Most of our customers are not in Kentucky. They are in the service side of our business that we've been in these past nine years. Pretty much they run the gamut across the United States, probably more in the south and southeast than in California.

A lot of what I want to talk about today is that we actually have transitioned as a company. We kept the same name, but over the last two years have been transitioning to become a software company instead of a service company. We've developed actually from a technology intellectual property, but we're now bringing in the software products and today we have customers in 53 countries around the world that we're selling our software technology to. So I'm going to go through and give you the story about what we're doing with this visualization technology, and where we see it going. One of the things you'll see about me is I get excited because we really think that we have things that can change the world and that's what being an entrepreneur is all about. We have a lot of lofty goals for what we're doing and a lot of expensive growth plans for what we need to do. At the end, I'll touch a little bit on what I see as an entrepreneur here in Kentucky as to what the issues are that are holding us back from being successful and the things that can help us to move ahead more aggressively.

So, I'm going to pull up and show a couple of animation clips. The technology that we developed came out of our own need. The people that work in our company for years have been creating all these beautiful visualizations of structures like this. When I first started the company, I thought architects are going to buy services and pay for us to do this. Architects don't have any money. So I started out on the wrong foot there. We ended up finding out who did need our services: we were the animation or the high-end creative visualization business. I always explain that we are in the sales and marketing business, developing sales and marketing tools for people who have a product to sell that doesn't exist and that product is a building or a structure. So a lot of our clients have been colleges and universities, churches, or museums, anybody who has to go out and raise a lot of money from a lot of different people to build a building like this, and they don't have that product. They go out and say, "Here's what you're investing in or here's what you're buying." We build their sales and marketing tools. To give an example, we've done work just in the past year for Ohio State University. We finished a project about a year and a half ago for the Crystal Cathedral Ministries in Orange County, California, Dr. Robert Schuler's church, and did all their visualization. We're doing a project now in Florida, in Orlando, for another large office structure broadcast facility.

So we continue to do that kind of work, the technology we've developed. I actually started working on this concept about five years ago. We were trying to figure how to put people in these buildings, and so we would always build all these fancy animations and fly through them. My sales story is every time I made a presentation, one of the first questions that everybody always asked was, "Why weren't there any people in there?" Well, there weren't any people in there because it's very difficult to do. You can see it in Hollywood movies all the time, but for



Randall Stevens

the budgets we had to work with, that would be a very difficult task. So we started working on a concept of using image data, people, in order to represent them in computer graphics. I'm going to show you a couple of clips. We record image data, a person, by putting them on a turntable and shooting them against a blue screen or green screen. As you can see in this little animation clip, then we can drop that person into a 3-D visualization scene like this and have complete camera movement that we can move them around. They are going to appear three-dimensional even though it's not a computer model.

We're using image data to do that and the benefits of this technology are, one, it's highly realistic because we have to use actual image data, so you can't get anything much more real than the real thing. The second is that the way we accomplish this in the computer is very efficient. It doesn't bog the computer down. So we applied the same technology to be able to do things like trees. So you can see in this animation as we fly down through here, you get these highly organic foliage and trees as well as the people, so we use the very same base technology using image-based data to do this. Let's see here. Are any of you from Louisville? Season ticket holders to the new stadium? Anybody? No. When the University of Louisville moved into their new Papa John's part of the stadium, they had a task to move 12,000 season ticket holders from the old stadium to the new stadium at about the same time they broke ground on the new stadium. So when they came to us, we actually built what I call an interim ticketing system. We had 12,000 people act as representatives of those 12,000 ticket holders to come through. At the tennis center at the University of Louisville they sat down at the computer, actually got to see views from the individual's seats at the new stadium, and where they could pick their seats. So we do that kind of work.

Back to the people technology, the tree technology, this is a clip of one of the things that we did. We wrote a piece of software that was called a "plug-in." We piggyback on top of or give new capabilities to other pieces of software. So, for instance, we're writing things now like control so that you can drop these things into your PowerPoint presentation, just like I'm using here. So we're constantly looking at and adding new capabilities to existing software platforms. Well, the first piece of software that we wrote and developed was what we call a plug-in for a piece of animation software called 3D Studio. This is a piece of software that's used by about 200,000 people around the world. It's developed by a company called Autodesk. You've probably heard of AutoCAD, if you've been around engineering or architecture. This is the visualization pack from the same company, so we wrote what we call a plug-in and we ran an ad, and started selling these things one at a time, bringing customers on and selling this capability. As we suspected, there was a need and people started buying. That was a little over two years ago.

About a year ago, we did something crazy. We said, "Let's give this a life." We went to Autodesk and said, "We're going to give you this technology if you'll build it into your application and distribute it for us," and the way that we make money is we sell content: libraries, pre-done libraries of trees, people and all these things. So, for a year now, we turned a hot percent of those into customers. We stepped out of the box with weird thinking by saying, "I used to get \$200 for this, so now I'm going to give it away?" You have to think like that, especially in this kind of business, in order to get ahead. As I said in the opening, we've got now customers in 53 countries, about 3,000 customers today. There are 200,000, so we had growth plans with what we're going to be doing over the next couple of years. More like 30 or 40,000 customers are going to be using this.

One of the ways that we can have that kind of explosive growth in this technology, is not only what we can invent, but also to partner up with other people to help us do this. So we have to give things away, go to Autodesk and say, "We'll give you this intellectual property, this technology. It's good for your users; they don't have to invest in the R&D; they get to put it into their product and distribute it." This is another example I want to show you. We're now doing walking people. There are a lot of applications not only for architects to use this, but also in film and video and Hollywood. So, we teamed up with a company out of Los Angeles, called the House of Moves. How many of you saw the movie *Titanic*? On those beauty shots where they are swooping down across the deck of the ship and you see all the people walking around, House of Moves is the company that did that work. So we teamed up with them to actually create these digital characters and you'll see in this clip we had people walking down the corridors of this building. Again it's image-based data. It's our same technology that we're delivering these capabilities with.

So, we teamed up with them, mainly because we only have so many resources, and said, "You create content; we'll help move it to an audience we know needs it." It also gives us then the ability to get a footstep into Hollywood. We don't know Hollywood. In Lexington, Kentucky, we're about as far away from Hollywood as you can get. So we teamed up with them. They're right there in the thick of it and a lot of their customers and clients, and so we started doing things like that. We've also got a partner now in the military simulation market that's in San Diego that's a big player in that market. So we've teamed up with them. They are writing a real-time engine around our software technology to be used in military simulators and flight simulators. Ultimately, games, PlayStation and all the new games and all those things, we have to do a lot through partnering. Out of where we're seated, we're going to have the potential to change the world. We're going to do away with just using this technology for people and trees and we can represent any product with image-based data.

This is a chair; I hope you can recognize it. It's a Herman Miller chair called the Aeron® Chair, the industrial design of the decade. That chair's actually in one of the museums in New York. So what we're doing now is starting

to work with the furniture companies to show them. I'm showing you this slide because this is our image-based data. This is how they would traditionally represent that chair. In fact, that's the product that they have using CAD geometry. You can see as I flip through here, I can spin around it and I get all the benefits using our technology of what you would do with a more traditional 3-D CAD model. But you have a very heightened sense of realism. These companies are into selling the image or product. You know how you sell these things electronically and let people get an idea of what they actually look like and how they'll work? Well, we have what we think is a much better way to do that. How can we allow an architect or somebody to take that piece of content, that chair, and drop it into their professional 3-D applications?

But what we're doing now is having the ability to actually drop that into a photo. So I can take that very same chair, drop it into a photograph, spin that chair around and then I can actually place it and move it. You can see it automatically scales itself so that I can see that product in the context of an environment or a scene. This is one of my new tricks. Let me see if I can pop this up. I brought a new gadget I bought about three weeks ago, a digital camera. I went to Best Buy and you take a picture and there's a little, tiny card that goes in my computer. So I just took a photo right before you all came in. I can now in this application click and drag, drop a chair, and spin that chair around within this scene.

So the whole concept of where we're taking this technology is that a year from now, you're going to be able to go to your computer at 2:00 in the morning, in your robe, and take a picture of your living room. You're going to go up to a furniture website and get a photo of a piece of furniture, and move that photo and drag it around and you're going to see what it looks like in your living room. You can imagine that has a lot of benefits over actually going to a store. You can touch it and feel it, but everybody goes and looks at a piece of furniture in a store, and the first thing they're doing is trying to imagine what that's going to look like in their living room. So we think that we have an answer to that and can start doing a little bit of this technology for those types of uses. All right.

The other thing that we're doing is the whole idea around this image-based content that we're producing. You can actually publish this content once, in this one file format, and you can use it in all of these different applications. Not only 3-D architectural or design package or that same piece of content can go up to use on the left, but also how many of you have heard of PhotoShop, a very popular desktop publishing application? We've already got it plugged in for PhotoShop. You'll see here I can take a document, pull up a piece of content, actually spin around it, and then paste it in. So, that very same piece of content I can then bring into the web-based stuff, and drop into a scene. That, of course, could just as easily be furniture or a chair that I can drop in. So, that's where we see taking this technology and we're trying as fast as we can, with our limited amount of resources, to get these things moving.

This is a picture I took a couple of weeks ago. We started working with these big furniture companies, the Steelcases, the Herman Millers, Heyworth Hahn, and all these companies and tried to bring them on board and go through the education process of explaining what our technology is and where we can see it moving. This is the big picture of where we see very quickly there is a need in the market. It's not all about our technology, it's that there's a problem, and the problem is what you see in this photograph. This is the way those companies deliver their information today. This was at our local Heyworth dealer in the back of their office where all the designers are. This is the way information is distributed to them. They send these big catalogues with all these products. These companies literally have tens of thousands of products. So, you can imagine, it's your first day on the job. You walk in here, how do you find anything? How do you know what all these product lines are, which furniture you want to use? You can imagine how expensive it is for those companies to publish, produce, and distribute, and then the stuff sits on the shelf not being used. We've got drawers full of cut sheets and guess what they do with these cut sheets? They cut them up. They cut the pictures out and paste them on boards to make presentations to you to view.

We see a real potential to take the technology and our understanding of how to build these software tools, deliver their information electronically, and allow people to see it and interact with it in 3-D. My mother could use the things that I just showed you and she's not a computer person. That's part of where we see our technology moving. Can we make it easy enough for the average person to use and not be intimidated by it? The tools are real complicated and they take a long time to learn, so 3-D hasn't taken off. That's the reason we've been in business for the last nine years. I teach three graphics courses at the University of Kentucky and it takes me a whole semester to get a class of computer illiterate students up to speed to start using these tools. There's no way that somebody who doesn't even come from CAD or that kind of thinking could be able to start to use these tools. So we're trying to break that barrier down.

This is just a little graph that I use. This is what our business is about. There are multicomponents to it. Again, we have to partner up with people, so I put these slides up because this is where the money is. There's money in all parts of this channel, but we have to figure out which parts of it we're going to focus on and where do we make money. Where do we let other people make money and bring on the team and get this rolling? These are applications that we're planning to import our technology to. We've got about four of these covered and three of these covered now, and the rest of them are like Joanne said; you've got all these things that need to be done, but they have to sit on the back burner until you can get the resources to get them done. As I said earlier we've got actually a little over 3,000 customers now that are a couple of months old, and 42 percent of our sales are outside the U.S. At 6:00 every

night the woman from FedEx comes up to our office and picks up a stack of packages that could be going to Brazil, Australia, United Kingdom, Singapore, Minnesota, or Cincinnati; they're going all over the place.

Joanne Lang

Randall, describe your office.

Randall Stevens

We do that all from a little 2,500 square foot loft above a bar. That's our claim to fame in Lexington, Kentucky. That's a picture of this 100 ft. long, 25 ft. wide loft space that we work out of in Lexington, Kentucky, and, if you didn't know we were up there, you'd probably be scared to come up the stairs it takes to get there. Actually, we've become this stop on a tour of downtown. The Mayor will send people down. But, we kind of joke about it, this is what can be. We don't care what our office looks like; none of our customers come there. We just need to be comfortable. So, do we want to spend money on office space, or do we want to spend money on hiring another programmer? We've got a new programmer that's a Lexington native. He got out of school in computer science, went home to get the job, and we just hired him back. He moves in December 1st. He was working for Anderson Consulting in Chicago and he's moving back. So that's where we want to spend our money and our resources. But you could give me an office in the big blue building in downtown Lexington and I would not trade; I would rather pay rent and be where we are. It's part of the culture. It's part of being comfortable. And I invite any of you, if you're in town, to come by and see the way we work. We are running out of room, so we are now in a hunt for someplace we can move.

I put up on that 70 percent of our orders go out for overnight delivery. The clients choose to pay for it. They're in a hurry. Usually they're buying our products because they need it tomorrow morning. So everything is in a very fast pace. We have been successful, not only for the technology that we've developed, but we service our customers. We're on the phone helping them get their jobs done every day, walking them through any problems they may be having. Here are my three points for how we help companies like ours prosper and move. I'll have to explain what these things mean. Well, obviously we need money. Jim and I have been making the rounds and doing a lot of learning over the past couple of months. We've done everything that we've done so far without any outside capital investment. So we've done everything with our cash flow and a little bit of help from Bank One. But, in order to really step on the accelerator in this, we have to have money and do it. We'll just have to invest and bring these people on. So companies like ours need that, and one of the problems here in Kentucky is there's just not an infrastructure with an understanding of these businesses. They're risky, but that's how you win. You have to take those risks and the sooner we find out either it's going to work or it's not going to work, the faster we move on to the next idea, those other 999 that are sitting in the queue. So money's a big thing. Yet that doesn't mean that we're going to pass the hat around, but we have to start building this network of angels and people that aren't risk-adverse and who see investing in these things as good.

We partner, we go out looking for partnerships all the time, but we need help also in professional services. We still haven't found an advertising agency that we feel comfortable with. You're asking a lot. I want somebody to understand software and technology and a new group of people. But I think that the more established service companies in Kentucky have to start making investments. I gave Bank One a plug earlier; they've helped us. When we first set up selling software, all of our orders were done over the Internet, so those orders come in. In the morning when we come in, all of our European orders are already starting to come in and then we'll ship those things out every day. They are credit payments, so you can expect the cash flow money to be in the bank 48 hours after you've made a sale. When we first setup two years ago, we were setting up our web site to be able to accept credit cards. We were literally the first person in Lexington, the first company, to set up credit card payment off a web site. So I go down to Bank One and get my merchant account. You know how to do that if you've got a swiper like at your restaurant, but how do you set all this up to work on the Internet? Well, I'm getting ready. We just spent six months developing software technology. We've got all these people on to all this. The last thing I need to be spending my time on is figuring how the bank is going to get my money processed and through there. But I had to spend about a month of my time on the phone getting it all figured out and getting it all set up. So those are the types of things I think about when I consider what needs to be done; those are investments that banks and institutions need to be making in order that when I walk in, we know how to do it and will help get it rolling faster.

The last one is probably the most important move that I tend to talk about a lot. The latest statistics on small business are that seven or eight out of every ten go out of business in the first two or three years, whatever everybody always talks about. That's just reality. You go to Silicon Valley and they talk about all these companies closing their doors. Well, guess what, it's probably 70-80 percent of them are closing their doors, just like any other small business, whether it's a great company or a gas station or a muffler shop or writing software and developing technology. So one of the things I think that, as a community, that we have to do is, one, start to be more understanding that, just because the business didn't work, doesn't mean that the people doing it are failures. It just means we think we're going to change the world. We may find out the world doesn't want what we're doing. Like I

said, the sooner we figure that out and get that answered, the quicker we're moving on to the next thing. I think that's the most important thing that people in this region have to think about: we've got these entrepreneurs. We want to keep them here, whether or not their first idea or second idea or 20th idea works. The 21st one is going to be a big hit and that's going to help make the region and everybody in it successful. So, media, just look at it. Start paying attention. There's an example that I used two or three years ago in Lexington. A local entrepreneur was very successful for years and employed hundreds of people; the company went bankrupt. The media pounds them relentlessly. The first question I would be asking is. "What are you doing next and when are you going to start?" But that's not the way that it works. So I think we have to change or else you're going to run people out, run them away.

Last night and this morning we sent out about 3,000 e-mails directly to our customers for new news for November, publishing electronic tutorials to help train. Our market is growing by 50-100 percent a year. We count that by the number of software seats that should be using our technology and so one of the things we do is invest in education. Of all the new people that are buying this software, nine chances out of ten they have never used any of it before, so we help teach them how to use those tools and how to use our products in those tools. We invest in education and things like that. We started publishing a monthly tutorial newsletter that goes out to a specific audience. We run ads in magazines that are very targeted to our industry. We go to trade shows. I'm going to be in Las Vegas at Autodisk University later this month. One of the things we did with Autodisk is, we gave them our software, but part of the contingency of giving them that software was, we wanted their help marketing the product. So we have a catalogue that we just started producing that has our products in it. These are going to be in the box of every piece of software that Audiodisk sells. What's that worth? That's worth giving that \$200 piece of software that I have to sell one at a time to get that kind of exposure. So, we do those types of things. Word of mouth in our industry is worth gold. People successfully use a product. The word has become about this big. I can go up anytime onto electronic news groups that are specific pieces of software and you've got customers all over the world that are talking to each other about these products, so there's not much room to not have products that don't work. You have to continuously service those customers, and keep products out there that are useful and good for them or else you get the heel real quick. The word will spread ten times faster than it did the good news.

Questions, Answers, and Comments

Questioner

How do you attract people back to Lexington that have moved away?

Randall Stevens

We haven't had to do a whole lot of it. It doesn't cost as much to live here. We've got 15 employees now. We probably will double in the next year. So we are looking to bring some highly skilled people back to Kentucky. How do you compete with the situation with the guy who's from central Kentucky and wanted to move back? The way this ended up happening with my vice president of marketing was at a dinner. I sat next to this guy's dad, struck up a conversation, and he said, "You need to meet our son." He flew down for an interview.

James Seiffert

Let me respond to that a little also because of the experience I've had with Randall. I'm not so sure that he really has to compete because we have talented people here in the state. I've had the opportunity to go out with Randall to hear this pitch. I've heard it 20 times and I could hear it 20 more times because I learn something every time I listen to him. But people are concerned whether Randall should be on the east coast, or on the west coast where this stuff is happening every day, and where thousands of programmers or thousands of marketers can go out and place his name in front of people. There are talented people in Kentucky. Randall teaches at the University of Kentucky. They have Lexmark there. He's pulling people from those companies and from the University all the time that compete, not only on a national level but also internationally. I think if people are attracted back to Kentucky, it might be in some respects the attractiveness of a company like this, but it's also what Kentucky means to these people. But in terms of competing on a national or worldwide basis, we have the resources here to do that I'm convinced, and Randall is a prime example. Here's a kid that grew up in Pikeville, but look at what he's done. There are a number of companies like that out here and what we need to do is just to get out and start promoting and working with these companies to get that out there because people want to stay in Kentucky. People want to come back to Kentucky. And I'm convinced that, with the collaboration between the states, the private sector, and the universities that it's a long row to hoe, but I think we're getting there. It's my observation that there are talented people around that compete on a national and international basis.

Randall Stevens

We have people contact us from Russia and Brazil who want to come work because they're so involved in what we're doing and understand it and get excited about that. Are you creating something exciting? That will be the number one draw for us. We find people that are so compelled and interested in what you're doing that they don't care if they live in Kentucky or Ohio or California as long as they're doing what to them is meaningful and think that they're making a contribution. I think that's what's important. When it comes to where we live, well, the only reason I'm in Lexington is because that's where I landed; it was the path of least resistance. I wanted to start a company and I might as well start it right here. Why put \$30 in my gas tank to drive somewhere else and start it? I could have done it anywhere. I think as a state, though, we have to understand that we can't start running tourism ads that say move to Kentucky because it's beautiful. Guess what? It's beautiful everywhere. I go to Grand Rapids and talk to these furniture companies. It's a great place. I go to San Diego. Have you ever been to San Diego? It's a great place. There are great places all over and we do have people that were born and raised here, so there are some natural ties. I think they've got to figure out how we network and show them that there are opportunities that they'd want to maybe move back. But I think we have to have compelling ideas. People move to where they're interested to work. I spend probably too much time at it, but that's what I enjoy every day. Do I go on vacation? No, it's boring compared to what I'm doing every day.

James Seiffert

You know there's a statistic around that just amazes me, and I think it's correct and some of the people from state government can help me out on this. I'm told that Louisville is located within 400 miles of two thirds of the U.S. population. What better location could you have than Kentucky with the opportunity to basically network and build off of the position where we are, our geographical location? So when it comes back to how to attract people to Kentucky, I think not only does it go to the good ideas that are emanating from the people here, but it also involves state government and public institutions. We need to improve in some of those areas: education, housing, things like that, that want people to come back because it's a very appealing area to live in. I grew up in Iowa and I've been here now 20 years. Louisville and Kentucky are home to me, and there are a lot of positive things going. But I think not only do we have to foster ideas like this, but we also have to help build that structure that people want to come back to. With our airports, what's our air transportation like? There are great improvements in those areas, but if there's one theme in all of this, and I think Joanne hit on it before, it's this collaboration. It's the joint venture where we all have to reach out and help the public institutions, the private sector, and the entrepreneurs. There's just a lot to do, but I think we're heading in the right direction.

Joanne Lang

Don, you have a question and, Jim, I just want to make sure that you've got some time because we have right at 3:00.

James Seiffert

I think there are a couple of questions.

Randall Stevens

I started high school in 1980 and I remember my freshman or sophomore year they got Apple computers. I think they were called some kind of PC clone or Apple clone, so I consider I got a good education in Pikeville High School at that time and we had great facilities. We were in a new school building. We had a computer lab and I just gravitated to that stuff. I had great parents who bought me a Texas Instruments TI 499A, a Commodore 64 and all those things. I can't say that there was any formal education. I think what I've always done my whole life is take advantage of everything that I've got in front of me. During college I spent my whole last couple of years every waking minute in CAD lab because I was already there and I wanted to learn, soak all that up. I think that people are just going to be inclined and we've got to make sure that the resources are there that they can get to. I'm not so sure that you can teach somebody a lot of those things. This summer I had two high school graduates just graduated from Dunbar High School. Now one's at Rice and one's at Ohio State. I was trying to talk them out of going to college. I mean these kids are bright, really bright and just had the knack, but they've got a great technology program over there at Dunbar High School. The first question was about interior designers, and the answer is not yet. They wouldn't be willing to pay. They are typically further behind than even the architects are as far as technology goes. But they're coming. We're going to build applications that will be useful to them.

James Seiffert

Let me expand on that. How many people in this audience have started or run their own business? I would say not half. When Randall put up on the board "tolerance to failure," I think we also need to develop a tolerance toward

ideas. We want to make sure that the resources are available for our children in middle school or high school to develop an entrepreneurial spirit. I'm not so sure we do that. I can remember growing up we had the regular high school and then we had a tech high school, and for some reason we always turned down our noses at the people who went to the tech high school. But they are the people who are learning the technology. Now that may have evolved over time, but we need to place some emphasis on developing a real attitude toward accepting and generating ideas from the people that are going to lead us in the future. It seems to me we can start instilling that type of attitude in the junior highs or in the high schools that we respect and want more ideas. Forget the traditional stuff. Forget reading what happened. Tell me what should have happened or what could have happened, and something like that. That goes back to the acceptance of ideas and how sometimes we're intolerant to that, and I think that's what Joanne and Kris do at the Kentucky Science and Technology Corporation. They recognize that we have to have ideas to the future, and, if we look at Kentucky now, maybe one of the problems that we have today, and why we show lagging behind in all of this, is that we didn't recognize how the economy was going to evolve. That evolution starts early in our development, and if we had the acceptance of ideas and people coming up with these different things 20 or 30 years ago, that may have made a difference. I think what we have to do is be tolerant to ideas and help our young people develop the cures for cancer, and the technology phrases for 2010, 2030, 2050, or whatever.

The laws are moving in the right direction, but I guess it depends on who you are talking to. Randall said one of the things that he needs is money. People are willing to give money, but they also want something in return. When you look at entrepreneurs, a lot of their businesses and their ideas are nonbankable, because you can't go to the bank and give them something as collateral. Most of these businesses in their early stages don't have a lot of other assets that they can use as collateral to secure a loan. As Randall points out, he hasn't, other than getting a small line of credit from a bank, used anybody else's money, and this is a company that has been in business nine years and has generated a million dollars of revenue. Now you can go out to the west coast and find companies that are still "burning," which is the term they use, millions of dollars, \$100 million a month and have not generated one dime of earnings, and people will put money into it. It's just crazy, but from a liability point of view there's a limited liability company now. We've got the corporations, and those limiting individuals' liability with respect to a lot of actions or omissions or stuff like that.

For an investor, there has to be a tolerance for risk also, and the problem we have in Kentucky is the gap between being able to utilize all of your own funds. It's called "friends, family, and fools" money. We go out and max out our credit cards and we've got 50 credit cards so now we owe 50 different companies \$500,000 or whatever. But there's a gap between using up all your money and getting to a venture capital round. Those venture capital people, as much as they like to talk and talk big, are very risk-averse. They don't like to take risks. They're adverse to risk. They want to come in after everybody has taken the idea, commercialized it, tried it, and now it's a success. So now they'll come and put their money in. We have a gap in Kentucky and it's known more as a seed investment or an angel investment. We've got to not only educate our entrepreneurs and our institutions on how to do business, but we have to educate equally our investors liability-wise. We can protect the investors from liability because liability will be done within an entity or the action will be done within an entity. We can't guarantee that they won't lose their money. No. But the upside is you use good, basic business principles and look at transactions and deals, and just apply common sense. Does it make sense? Do they have a good business plan? Are they going to carry it out? Can they execute well? If you can say yes to those, I think you've minimized your risks, but I don't think we can go out and basically guarantee to an investor that they're not going to lose their money. I think that the investors have to be sophisticated and be educated enough to know that it is a risk. They probably won't have any more liability than the loss of their investment. I don't think that you'll find that investors have to dip into their pocket and pay something more than what their initial investment was. But I think we have to go back and equally impress upon the investors that there has to be a tolerance toward risk and you have to risk.

I represent a number of investors. They're not so sure they want to put their money in, but they certainly want to make a 200 or 300 percent return on their money. Now how can you guarantee that? The other thing that I think is important is making sure that we have investors that can provide some expertise to the business that they're investing in. It's called "smart money." Randall would love to have a million dollars, but that million dollars could be much more beneficial and much more advantageous to his company if it's given by an investor or group of investors who know something about his business, maybe helping him market it, help with the technology, whatever. So you have to join up an investor who has an appetite for this type of technology or this type of business with an entrepreneur. The Small Business Administration, believe it or not, has an angel investor hotline that they can line up investors with entrepreneurs and they have a database with profiles of type of investments these entrepreneurs are looking at and the investor that has an appetite for this type of company. So there are things like that going on.

Randall Stevens

The big companies can't afford the risk, so how do you keep individuals from copying or doing that? That's actually part of the business strategy. You don't want them to. Part of our strategy is to have widespread use of our

proprietary file format and, as often as we can, we collect the dollars. But the name of our game is, we can't have a couple thousand people using it, we need a couple of million people using it.

Questioner

So, that's why you're just going for a couple of different things in each area.

Randall Stevens

If you could write a check for \$10 million, I could show a strategy for going after all of them simultaneously, but the reality is that we only have a limited amount of resources. So we have to focus and channel to where we see the most direct benefit and then our strategy now is to partner in the other industries. And where we used to get presence and a foothold, we have to give up that revenue stream now to another partner who may already have a head start; but our goal is to make what we call our RPC technology, which is the file extension. We want that to be just as prevalent as somebody saying, give it to me as a JPG or as another type of file format. Our long-term goal is that we don't want to be in the business of making people a tree library. We want to be in the business of continuing to develop that core technology and licensing it, to integrate into tools that create content, to use that content, and that's where the long-term value is.

James Seiffert

From a legal point of view, there are things you can do to protect your ideas, intellectual property protection with patents and stuff like that. The thing that you have to be somewhat sensitive to is that in this age of speed, in trying to protect your ideas sometimes, you may lose the benefit of getting into the market. So it's really a balancing thing and you really have to call in some professionals to give you some insight to that. Does it make sense to spend the time to patent your idea or copyright it to get this protection and, in that time, lose the advantage you may have getting into the market? Maybe this isn't an idea that needs to be protected. Maybe what you need to do is just to get into the market.

Randall Stevens

I'll give you a couple of examples. I looked into, when we started to build software, whether we should file patents and be able to patent what we were doing. So I, with a limited number of people in the area who were knowledgeable about these types of things, went to get the best advice that I could. They're in Lexington and this was in May. We had the product scheduled to actually start shipping in about a month from then and the patent attorney said, "Yes, we could go through this process but you can't start selling your software." I said, "You're crazy, we're selling 30 days from now as soon as we're finished writing the very last bit of code." So we lost the ability to file patent on the first things that we had executed.

Now we're in the process of actually working with the University of Kentucky, where we funded some grants and worked on some new R&D, again leveraging resources that we can find. We're working on some technology that's going to completely wipe away and it's a whole new generation of what we're doing. It looks like technology that we will hopefully be able to patent and put those things in place. But our strategy was we got a team of the biggest players in the market. We've got to get product so that the money starts flowing so we can just live another day to make that next deal, and you've got to move fast. And one of the things I was going to bring up is that I have a personal sense of accomplishment that we have created and we've got thousands of customers all over the world using it as opposed to worrying that somebody was going to steal it. If it sits on a shelf I couldn't share it with anybody.

I think what you're describing is exactly that kind of thought process you can extrapolate not only to the individual, but look at the University of Kentucky and the way they handle intellectual property. They wrap it all up because they don't want to give anything away. Well, guess what? They aren't making anything. They're sitting on it and they don't make any money on it because they're afraid to give something away, to give something up. So they're doing some great things there. Joe Fink is running the Aztec Center and they're doing outreach, but if Joe were here today talking about the last year, he would say the University had \$2.4 million in royalty revenue. Give me the resources at that University and believe me I'll bring more than \$2.4 million into there with all that they have at their disposal. So you can't be afraid to give it up, just like we couldn't be afraid to give away the software. Now we just gave the software to the second largest player in the market, a company called Bentley Systems, out of Philadelphia. Why? They've got 350,000 customers all over the world that we want access to, so we gave it to them. These are handshake deals. I called. I set up a meeting. I fly. I sat down with Bill Bentley and it's a "no-brainer." I didn't have to ask him to pay us anything. It's a very easy thing to get going and now we're getting ready to next month launch access to another 350,000 customers of our product. I think you can second-guess all the time. I second-guess. I'm sure I make 10 mistakes a day, but you just go on.

James Seiffert

There's no question that intellectual property has become the focus of entrepreneurship. I can give you an example of our law firm that we recently merged with a five-person intellectual property firm because we recognized the value that this type of legal expertise brings to our firm. But in another respect what that does is also shows where the focus is these days. The focus has changed from a business to an idea, which we've really talked about, and that was one of the observations, I think. Today, people place value on ideas, where before what they placed value on was businesses. You bring me a business that makes money and I'll think about investing. The focus now, and it's really changed, is you bring me an idea and, if it makes sense, we'll try to develop it. That's why intellectual property has become so important, because they want to protect the value of that idea today. I think that is probably one of the major changes in what we've seen over the last 10 or 20 years. People are placing value on ideas rather than on businesses and the people supposedly are smart enough. Sometimes you question the people that put in all this money and people lose millions of dollars a month, but what happened is people are placing so much value on ideas now, and rightly so. Then they can develop a team to take this idea, commercialize it and make it marketable to the end user. And the bottom line is, how are we going to make this a better experience for the end user? I sit here and look at Randall's presentation and you can just imagine going down and buying a sofa for your living room. Walk into the furniture store and take a photo of your piece, drop it in the computer, and then start walking around the floor and dropping in sofas. That's got to be a better experience than what people are experiencing today. So I keep scratching my head. Randall said we've been around and started meeting a lot of people and they've not, at this point in time, experienced a lot of success. But there are a lot of reasons for that, and again, it's finding the right match. It's finding the right people that understand the technology and have a vision like Randall does. Once you find that, then people aren't that adverse to risks.

Randall Stevens

I think one of the other things is that the more I'm exposed to a number of bright people all over the world that we work with every day, I don't think there are any unique. Believe me, there are two dozen people thinking about the very same thing you are today. The question is who gets out of the gate and does it first. When I pulled the trigger and decided to invest and take that risk writing the technology and getting the product out, I guarantee there were a half dozen people around the world who, when they first saw the stuff happening, went, "Damn, he beat me to it." It happens all the time. So it's all about speed and you've got to take those ideas and figure out how to get the resources and then you move. And if you find out quickly, it didn't work for us, guess what? If we executed right, it wasn't going to work for those other dozens, so who cares? We found it out and moved onto the next thing, but speed is a big part of it.

James Seiffert

Maybe in the last couple of minutes I can give you an overview of the legal practice and this New Economy. I have a little gripe, I guess. I'm not real comfortable with the New Economy because it seems to me that when we've identified this information technology as a New Economy, we were basically discarding what we've done in the past and I think that's a big mistake. We're here today because of what we've done in the past. I see this information technology as just an evolution of our economy. We've accomplished more in the last five years than we did from the beginning of time up to the last five years, where technology has increased, and it will increase twice that much in the next five years. And that's basically with the same people that we had, just different generations.

So, Joanne, we talked about this at the start. Some people are complaining about what the state government is doing for the old businesses, the bricks and mortar businesses, the mom and pop businesses. I think they're doing a lot. It's just that you have to recognize that you have to take this information technology and use it to help build your business because the bricks and mortar companies are still going to be there. We're going to need those businesses. The question is how can we take the information technology and make that company better. Those people with a bricks and mortar company have to have a vision of what they can do with this new information technology to make their company better. I think the law practice is going through an evolution also. I think that we have to recognize that the services that we've provided before may not be the same services that we have to provide today. We have to go out and we have to take some risks. We can't be adverse to risks. We like to get paid just like everybody gets paid, but with companies like Randall's—though Randall's is not really the company to use because he's sitting here generating profits and earnings—but we're taking risks, too. We have to get re-educated. We have to retool. I'm going to spend a couple of days out in Palo Alto or San Jose going to a conference on this type of venture capital for information technology, and how lawyers can help companies like that. You're seeing it all over the place. Professional service providers have to retool and think about it. There has to be an evolution with the service provider as there is with the entrepreneur and I think we're making that changeover. I could just get up on my soapbox a minute, but I think if I have one criticism of what's going on now, it's state government's lack of enthusiasm toward this Kentucky Innovation Act. I know it's real early, but here's an opportunity because there's \$55 million available to our entrepreneurs and our universities to help build ideas. I don't hear anybody promoting

that; and I know it takes a while, but I think we have to have a leader that gets out there and starts promoting this type of stuff and letting people know that it's available and that they're here to support. And the universities have to get up and start doing that, and the private sector does, but I really think that it has to start at the top. This was a great piece of legislation: \$55 million is available. The problem is that every state is doing that and we have to take an initiative to get out and get this available to our people as quickly as possible. So that's my soapbox speech.

Joanne Lang

Any final questions? Any answers? Yes, sir?

Questioner

How do we get access to the Innovation Act and this program and processes so that we can participate? I find it a big black hole that I can't find out where the information is, who's got it, or how to apply to participate in it.

Joanne Lang

There are different pieces to it. I'll give you a one-pager up here, so at least you can become acquainted with what the programs are and certainly we can give you the full legislation if you're interested in that. Diane, who would be the one key person you would think for contact?

Diane Hancock

We're still in the gearing-up stage.

Joanne Lang

That's right. This is Diane Hancock with the Governor's Office.

Diane Hancock

Some of the pieces of the Act are not funded with this computer, some of the \$53 million doesn't come online until next fiscal year. The applications will be available probably within the next couple of months. We've been interviewing, and have done a national search for the Commissioner for the New Economy. We are hopeful that we will be able to make the announcement that we have found someone within the next week. We believe that this person that we're finishing up our negotiations with will be on board by December 15th and will move to this state between now and that time. So that person will be in charge of the two \$20 million pools that you can access for grants and loans, etc. There are also several provisions to the Act that will help with commercialization and setting up rural mutual adventures where people can help stimulate clusters and that sort of thing. Those dollars will be available July 1st and we're going to be working with the Kentucky Cyber Technology Corporation and they are going to be our lead agency on that. We will be with them to develop the RFP so that we establish our expectations. So we're hopeful that they'll be ready to go with those applications by the spring so as soon as the money becomes available we'll be able to start. If you want to get a copy of the bill or if you want to get some more information from the Governor's Office, you can call key management. We have that available to you.

We had the first meeting of the Commission that was established in the Act. We plan to have our next meeting in January in Louisville. We want to start going around the state and have a meeting, rather than quarterly, every other month and highlight what that area is doing to develop the New Economy. They're trying to find a location that will be close by so we can showcase what's in the offing up in Louisville. So hopefully we'll have that set up soon. We encourage you if you want to come to any of these meetings; of course you're welcome. You are welcome anywhere in the state, but when they come to your area, that you come and use this as a place to network. We're working on building a website, which is now on its way. We're hoping to unveil that by January and want it to be a place where you can come to get information on what's going on in the state. This session has shown we do have a lot of good ideas out there. We've got people who are willing to innovate and how we support those people and their good ideas. Five years from now, with the help of our new legislation, there's a lot of things that we're going to be working on in addition, with regard to that, to change the way state government does things, and the way we have our law developed for the old economy. And that's something that the Science and Technology Corporation is working on. We're targeting July 1 as the date when we will have our strategic plan finalized. The Governor and the legislature and we will work on that, so we invite everybody to participate. We want this to be the kind of effort that involves everybody, so that we can relay those questions to someone who may have the answer when we come together in your community. We hope to publish this or put it over the Web or place a phone call because it's going to take all Kentucky to work together to see this through and for it to see success. We also don't want to have commission meetings be the usual kind of government meeting where there's somebody who comes who does presentations. We want people to participate in those meetings and feel free to come up to the microphone and ask their questions or make some suggestions because it is a new idea and we want to make sure we capture all input. Again, if you want to get information, give me your address.

Questioner

You had mentioned that there was going to be a grant workshop both in Louisville and in Lexington. Can I have that information about what time and where?

Joanne Lang

Yes, I do, and I'm glad to give it off-line, too, as well. On December 4th, it's in Louisville at the Information Technology Resource Center at the U of L Shelby campus; and on December 5th at the University of Kentucky in Room 149 at the Aztec Building from 8:30 to 4:30.

Well, I want to thank everybody for taking time to be with us this afternoon. It's hard to sit after lunch, I know, but clearly we had some interesting stories about key innovation, tolerance for risks, and partnerships. Keep on with good ideas. Thank you very much and let's give everybody and our panel, a round of applause.



***Appendices of Slide Presentations
from the***

NOVEMBER 14, 2000

The seventh annual conference of

KENTUCKY
LONG-TERM POLICY RESEARCH CENTER

presented in conjunction with

Kentucky Leaders for the New Century

with financial support from

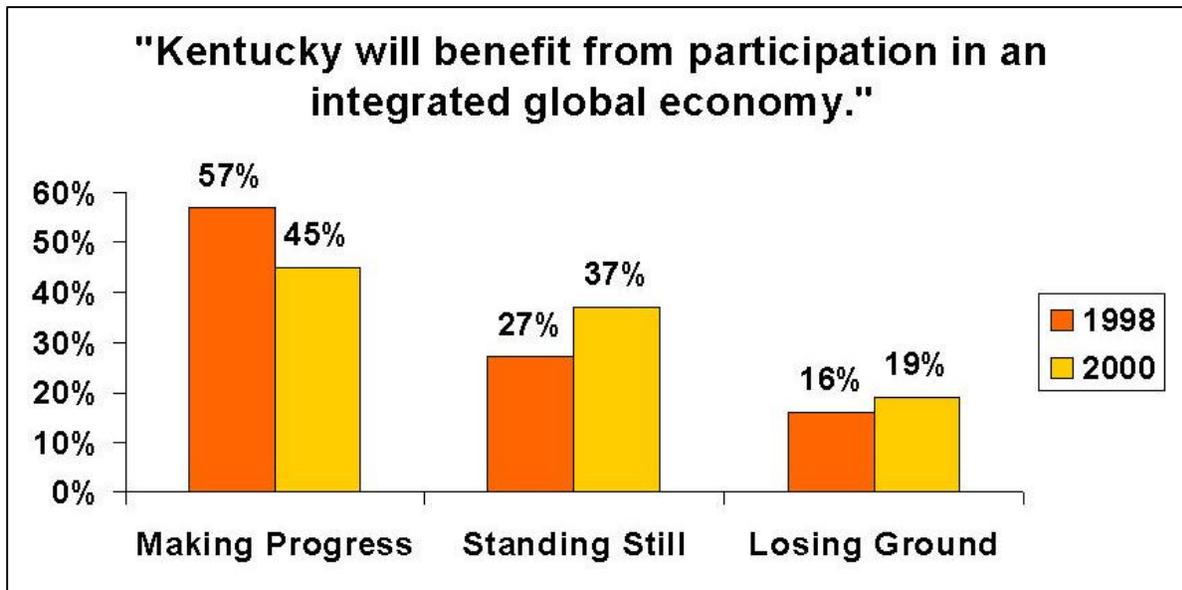
Fidelity Investments, Ashland Inc., and Delta Airlines

Appendix A

The Forces of the Future
Michael Childress

Slide 1

Ambivalent About the Global Economy



Slide 2

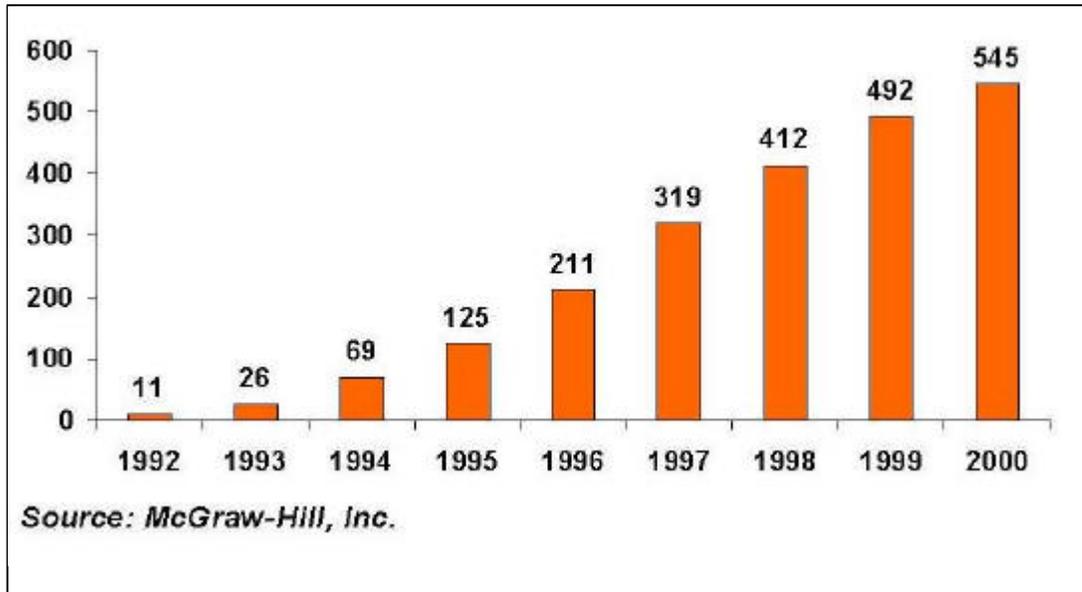
Traditional Economic Sectors in Flux

Projected Job Losses in Occupations with Highest Losses, Kentucky, 1996-2006

Sewing Machine Operators, Garment	4,752
Farmers	4,695
Bank Tellers	1,775
Farm Workers, excl. Ag. Services	1,748
Cleaners & Servants, Private Household	1,156
Typists, incl. Word Processing	1,118

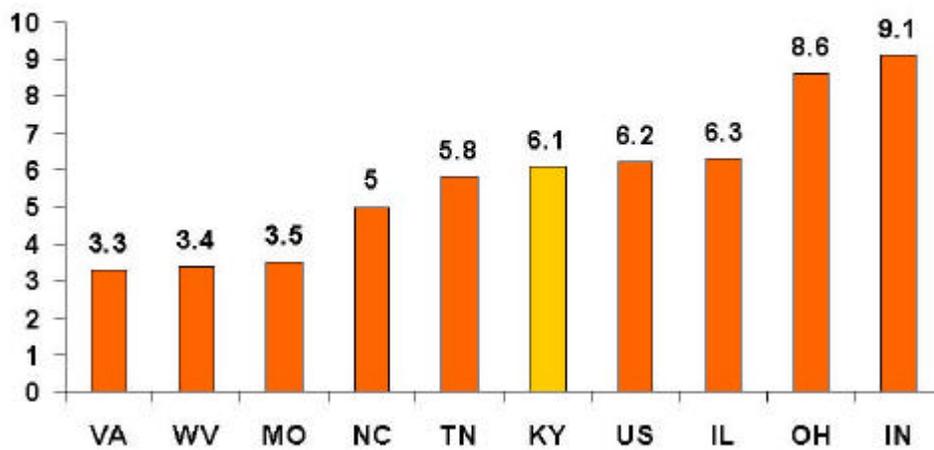
Slide 3

Number of ISO 9000 Companies in Kentucky



Slide 4

ISO 9000 Registered Businesses per 1,000



Slide 5

Kentucky's Exports

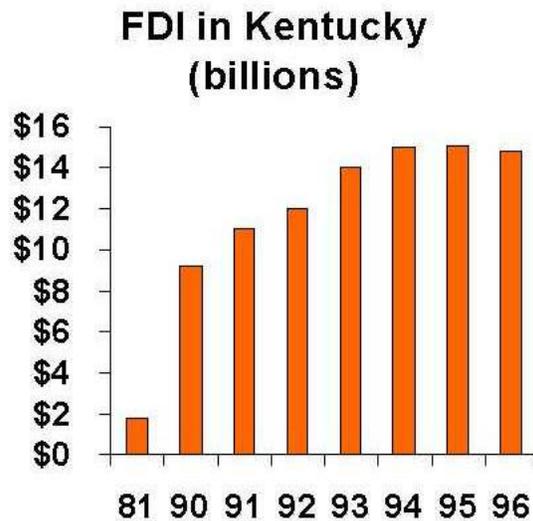
- From '87 to '97 KY's exports increased just over 300%
- We export a broad range of products
 - transportation equip.
 - industrial mach.
 - tobacco prod
 - apparel
 - chemicals



Slide 6

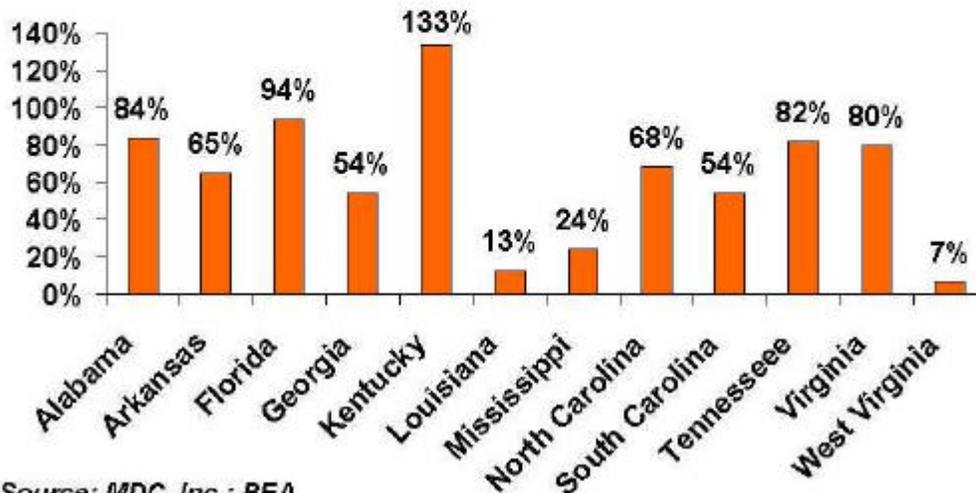
Foreign Direct Investment

- 89,500 Kentucky workers are employed by foreign affiliates
- On average, these are higher paying jobs



Slide 7

Percent Growth in Employment in Foreign Affiliates, 1977-97



Source: MDC, Inc.; BEA

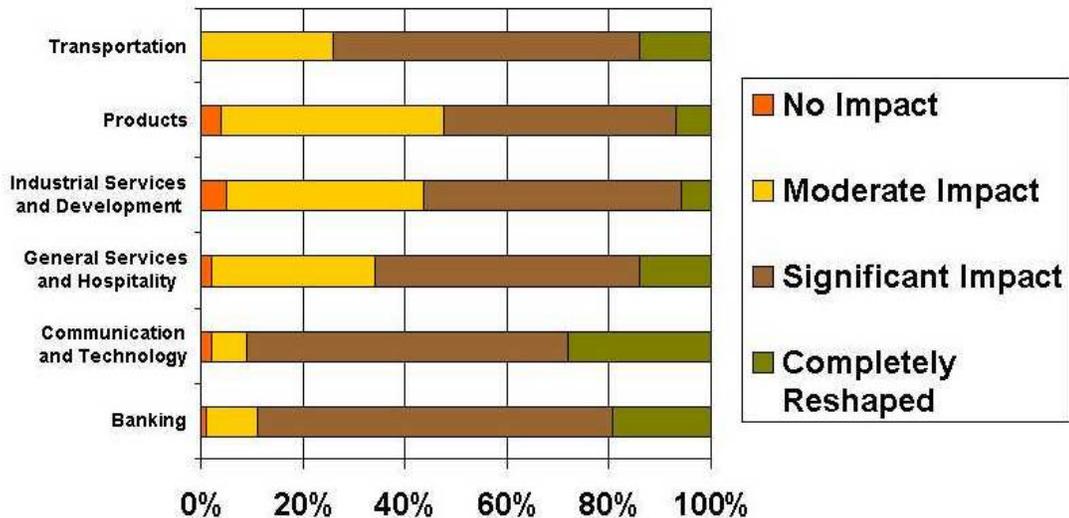
Slide 8

The “Digital Economy”

Our generation stands on the very cusp of the greatest technological revolution that mankind has ever faced. Some compare this age of electronic communication with the arrival of the Gutenberg press, or with the industrial revolution. Yet this revolution when it has run its course may have a greater impact on the planet than anything that has preceded.

Slide 9

Anticipated Impact of IT on Business, by Sector

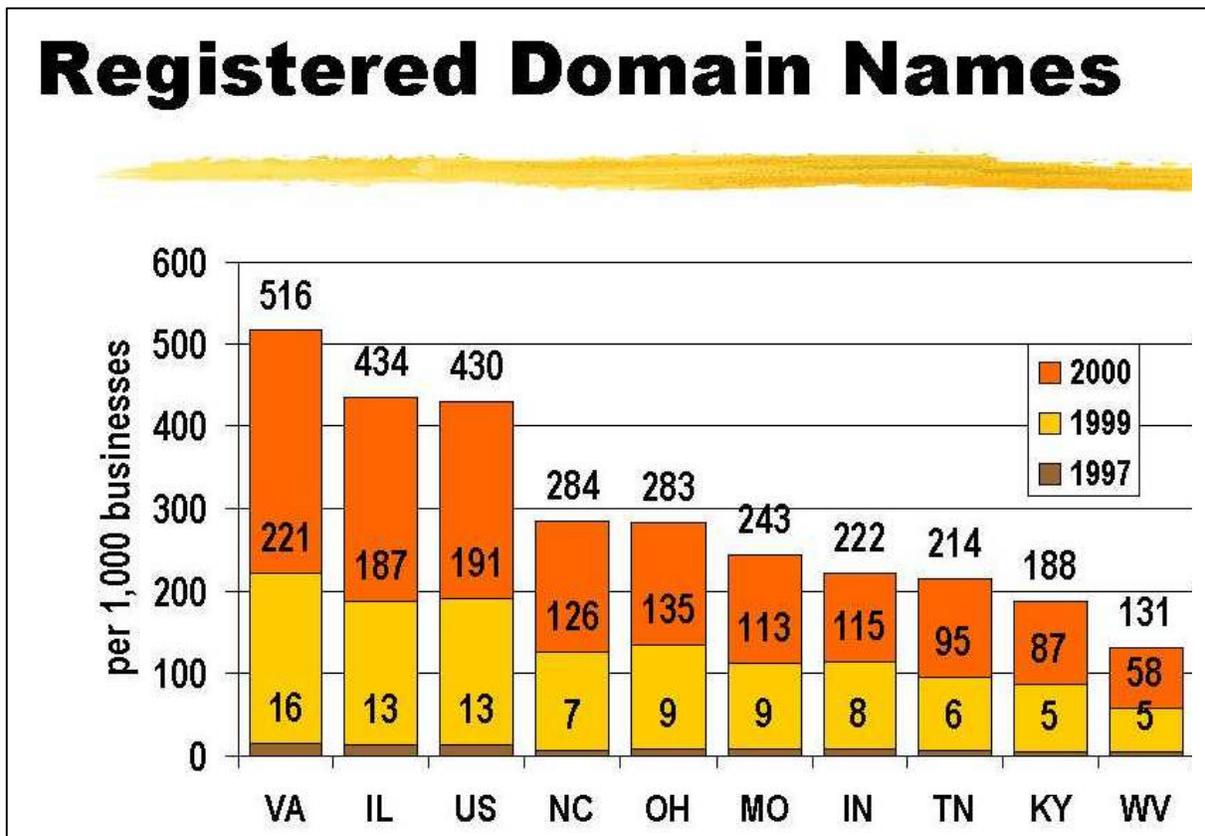
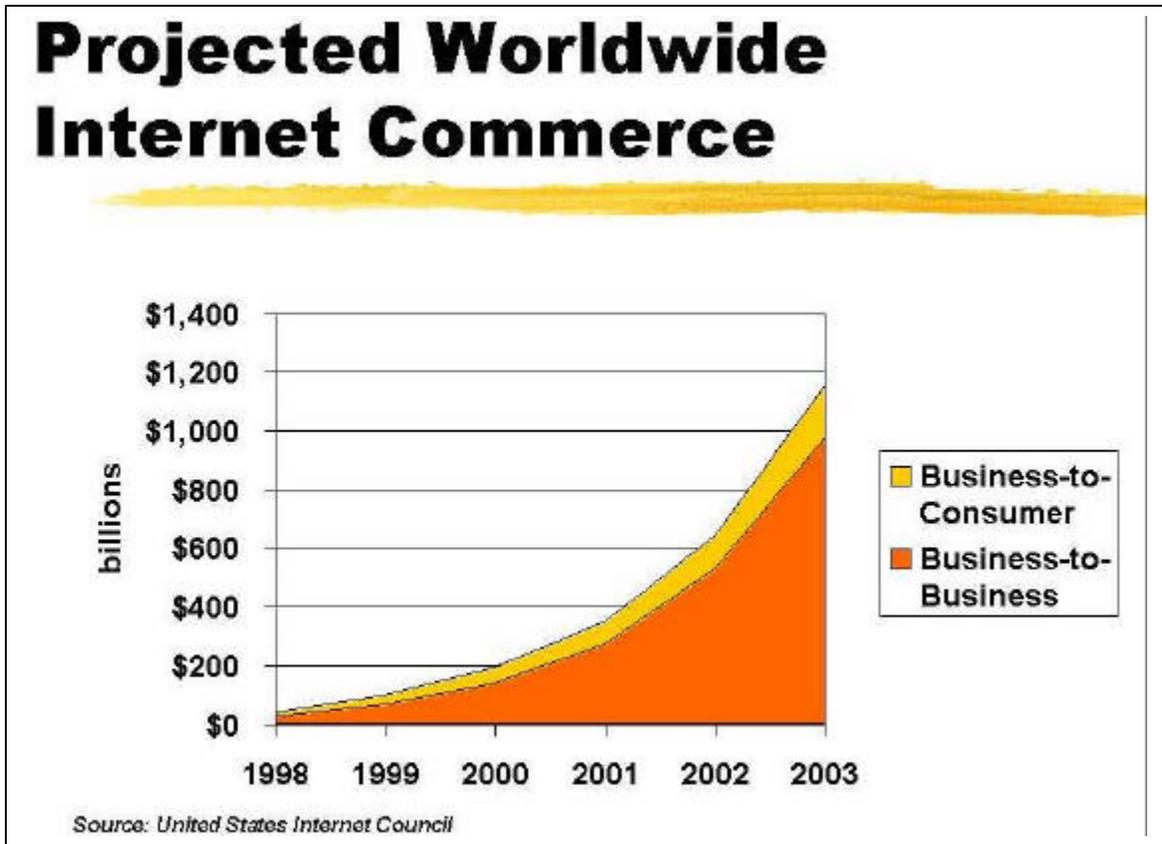


Source: PriceWaterhouse Coopers, CEO Interviews

Slide 10

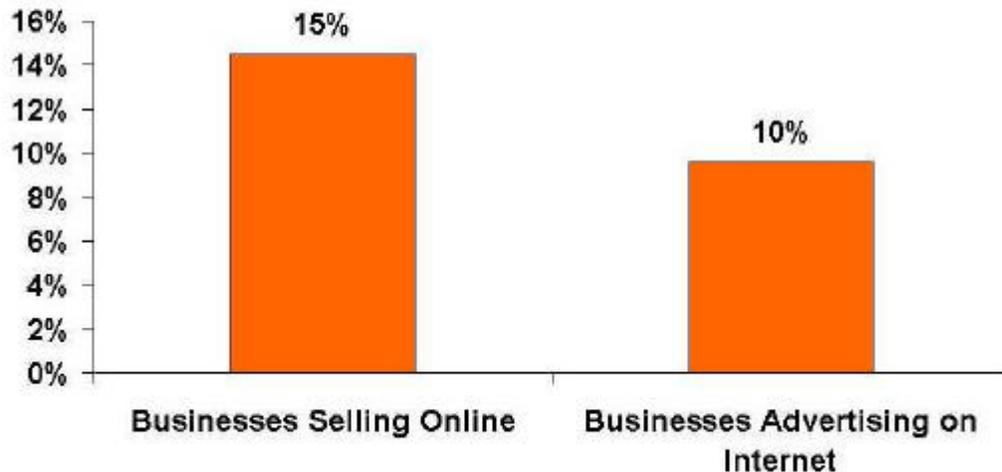
Importance of the “Digital Economy”

- Phenomenal impact on the economy--lower inflation, higher productivity & quality jobs
- Online business-to-consumer (B2C) sales estimated at \$23 billion for the first seven months of 2000
- Estimated 2003 business-to-business (B2B) transactions projected to be between \$634 billion & \$2.8 trillion



Slide 13

Online Sales and Advertising by Kentucky's Businesses, 1998-99



Source: Center for Business and Economic Research, UK

Slide 14

Advertising by U.S. Businesses

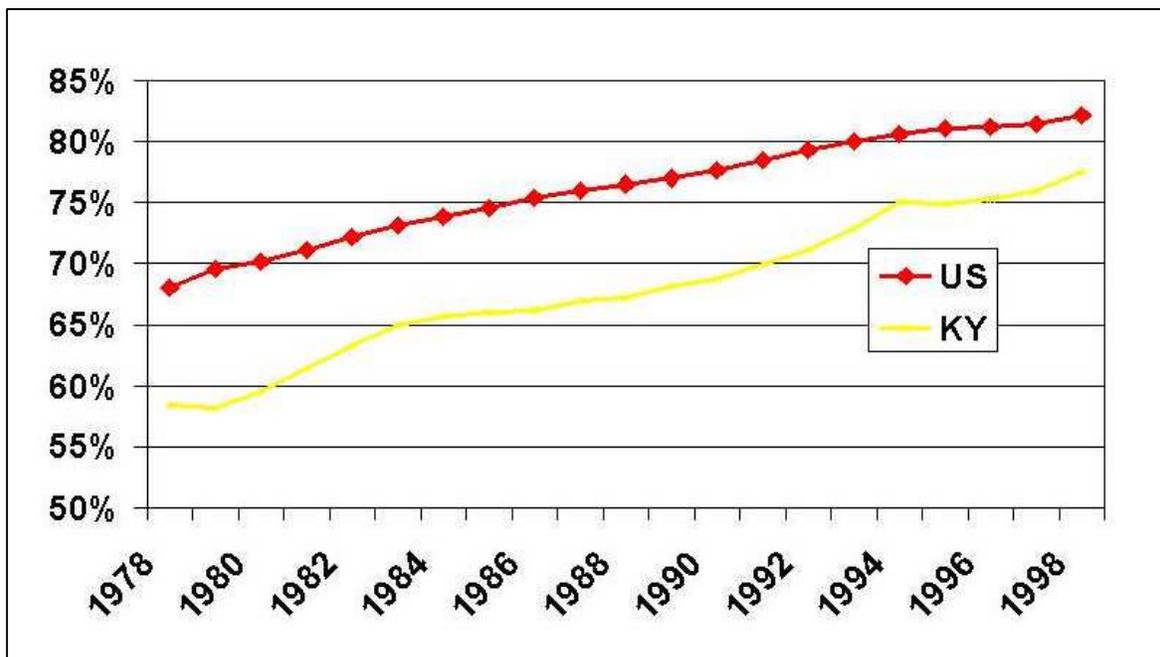
- Forrester Research reports that 34% of U.S. businesses online in 1999
- National Trust for Historic Preservation survey of 1,500 "Main Street" businesses in 16 downtown commercial districts nationwide
 - 16.4% online to sell products
 - 14.3% of total sales from web

Rising Educational Demands

In the new economy of the 21st century ... businesses depend largely on innovation. To stay competitive, they have to generate products and services that are better or cheaper than those of their rivals, and they must innovate faster than their rivals. Thus, demand is growing for people who can spur innovation by identifying and solving new problems or figuring out what clients and customers might need or want.

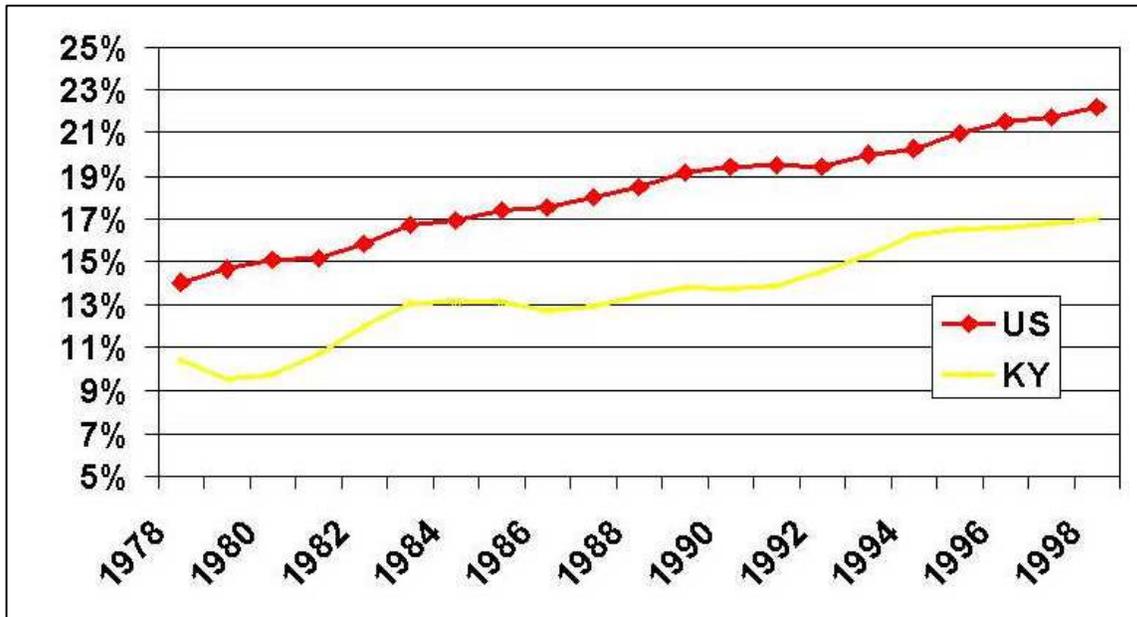
-Robert Reich, 2000

Percentage of Persons with at Least a High School Diploma



Slide 17

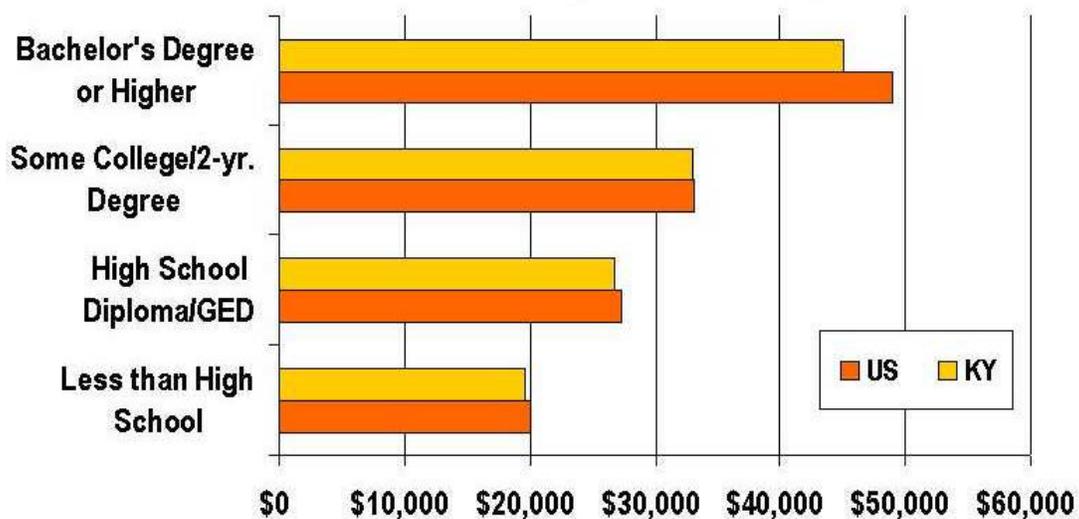
Percentage of Persons with a Bachelor's Degree or Higher



Slide 18

Education Pays

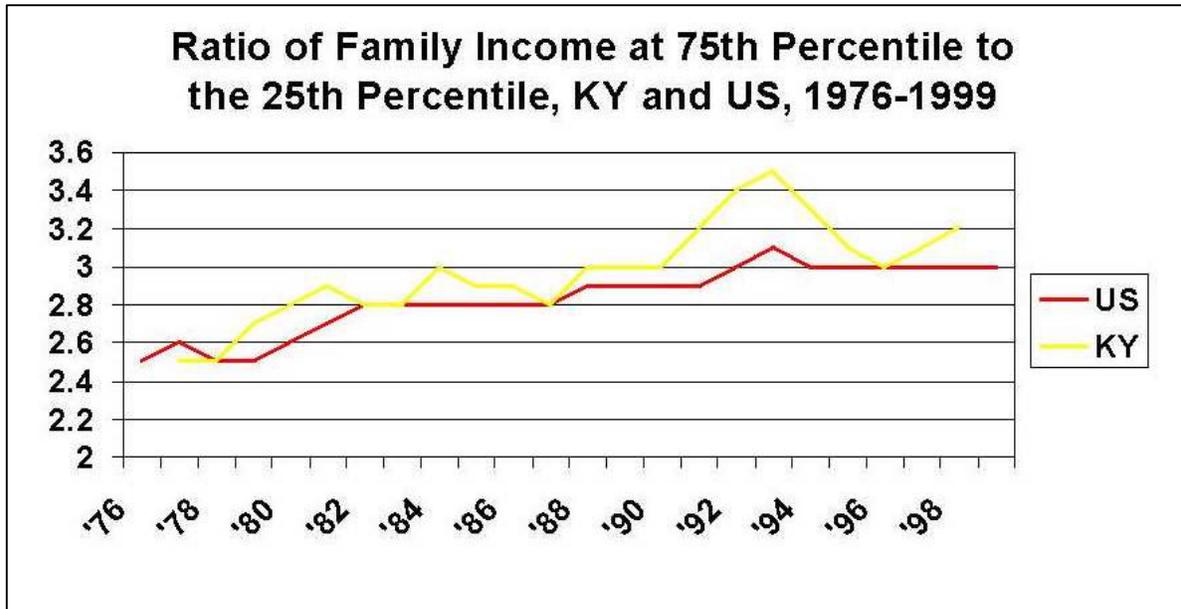
Median Income by Educational Attainment, Full-Time, Year-Round Workers, Age 25 and Older, 1998



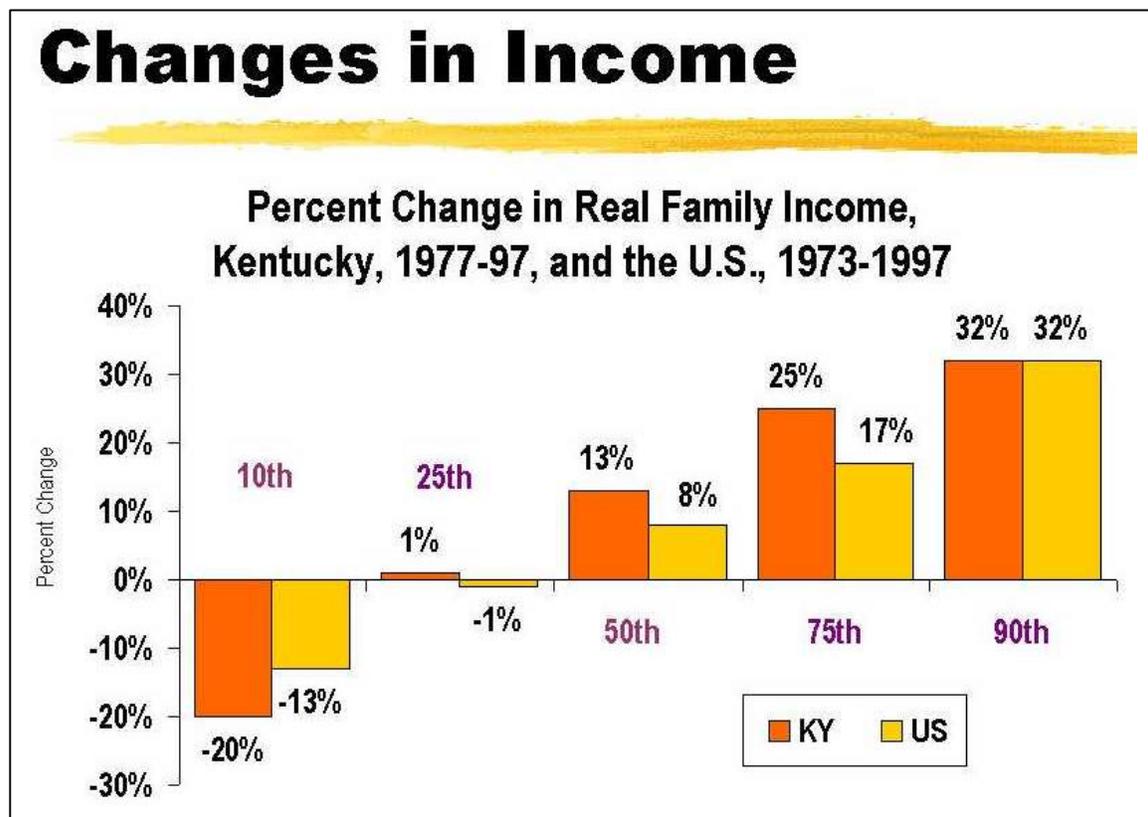
Source: KLTPRC analysis of CPS

Slide 19

Middle Class Family Income



Slide 20

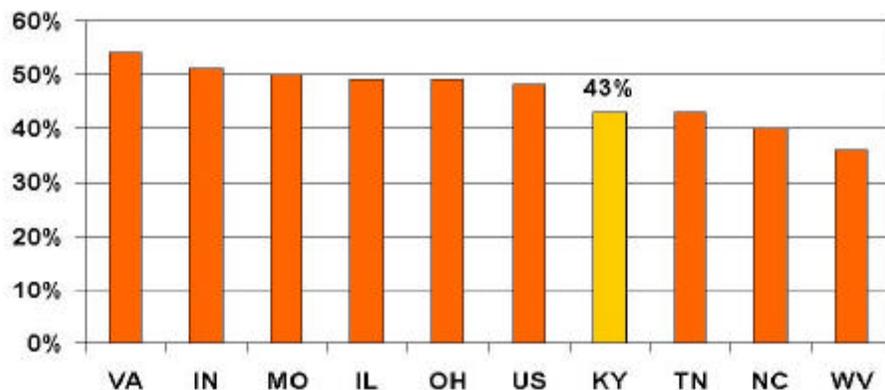


Slide 21

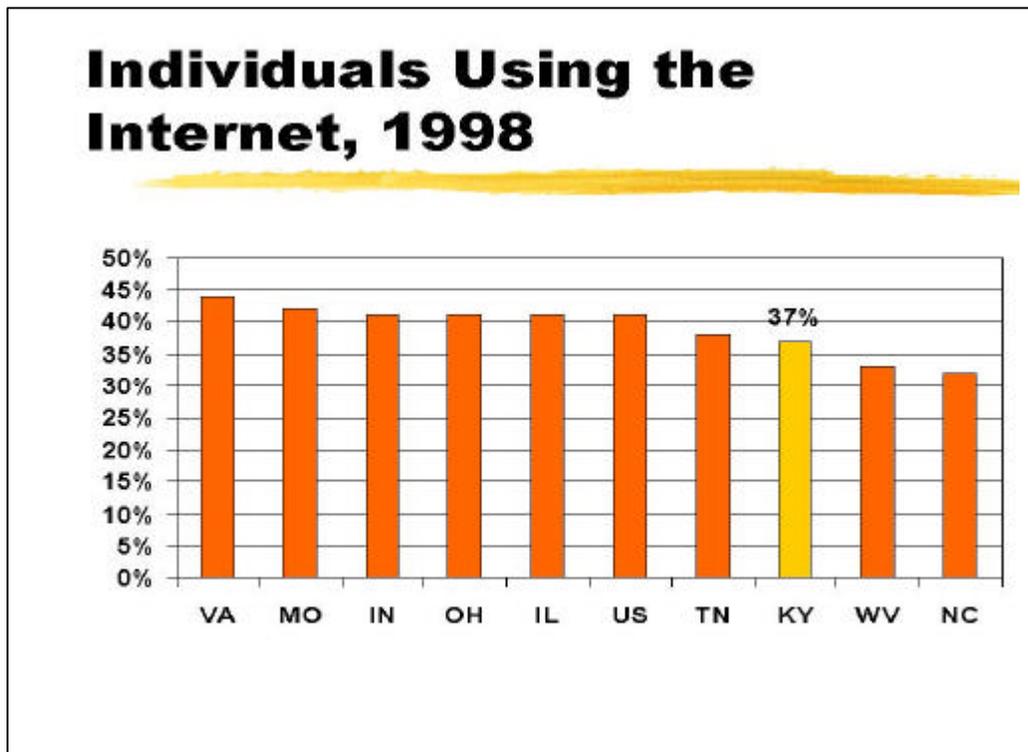
Why is the “Digital Divide” Important

- 100-fold increase in worldwide Internet access since 1994, up 78% in past year alone
- Increasingly a source of information
 - product & service information
 - job/entrepreneurial opportunities
 - digital government services
 - research
- Danger of increased social stratification for those who are not connected

Slide 22

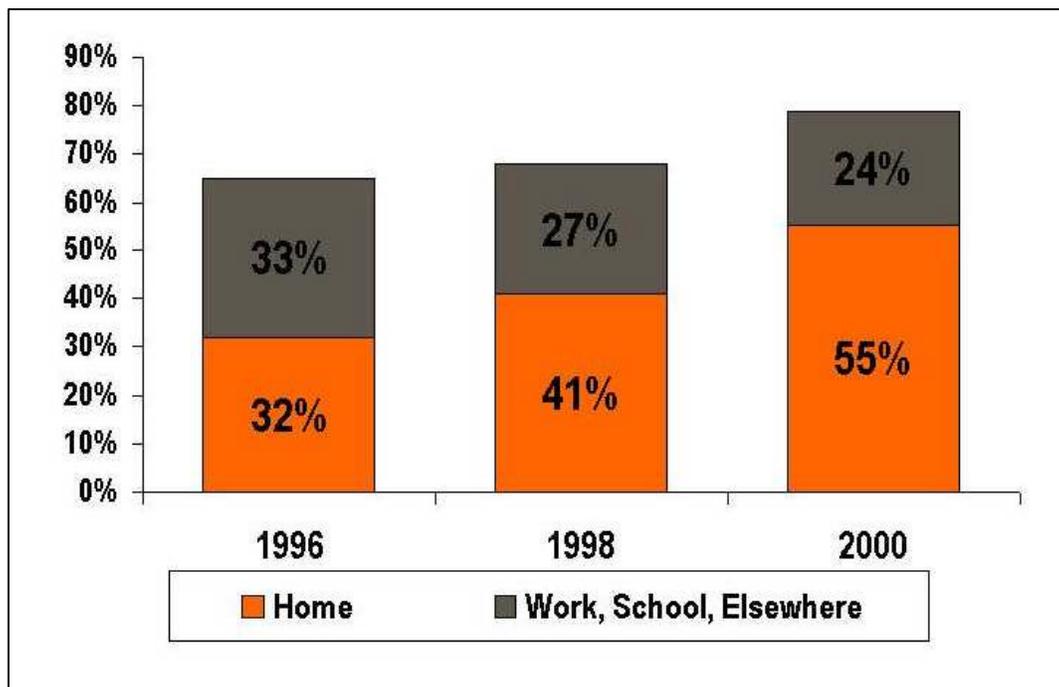
Individuals with Home Computer Access, 1998

Slide 23

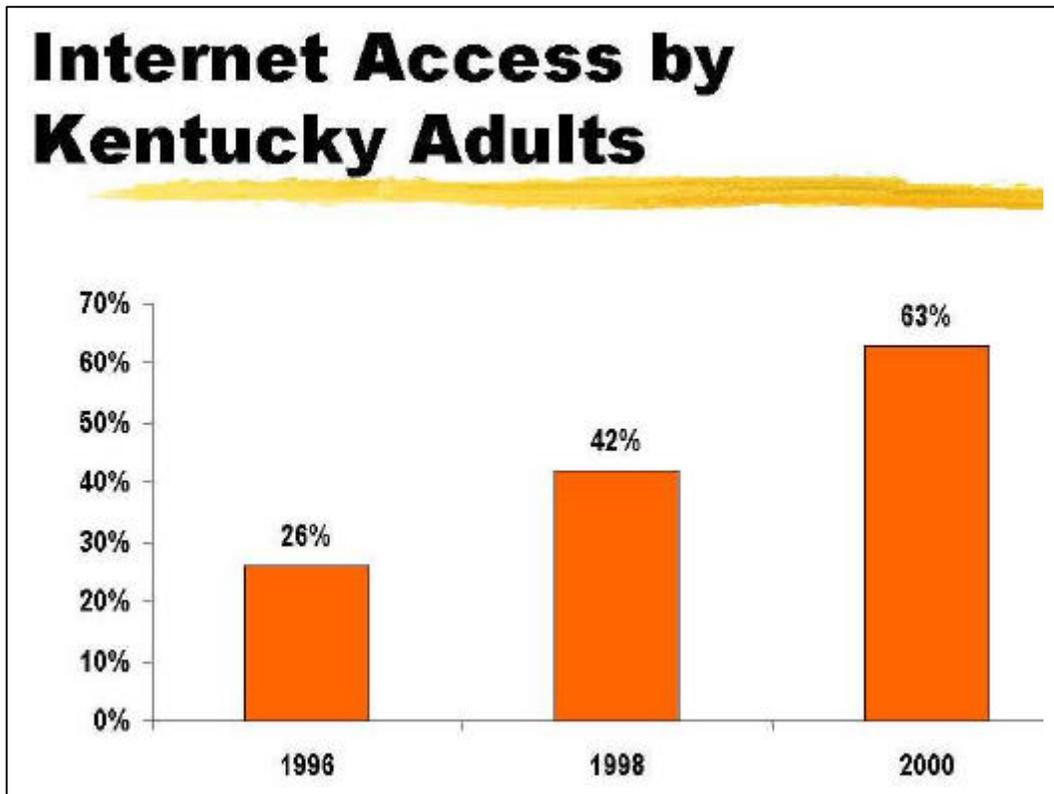


Slide 24

Percent of Kentucky Adults with Access to a Computer

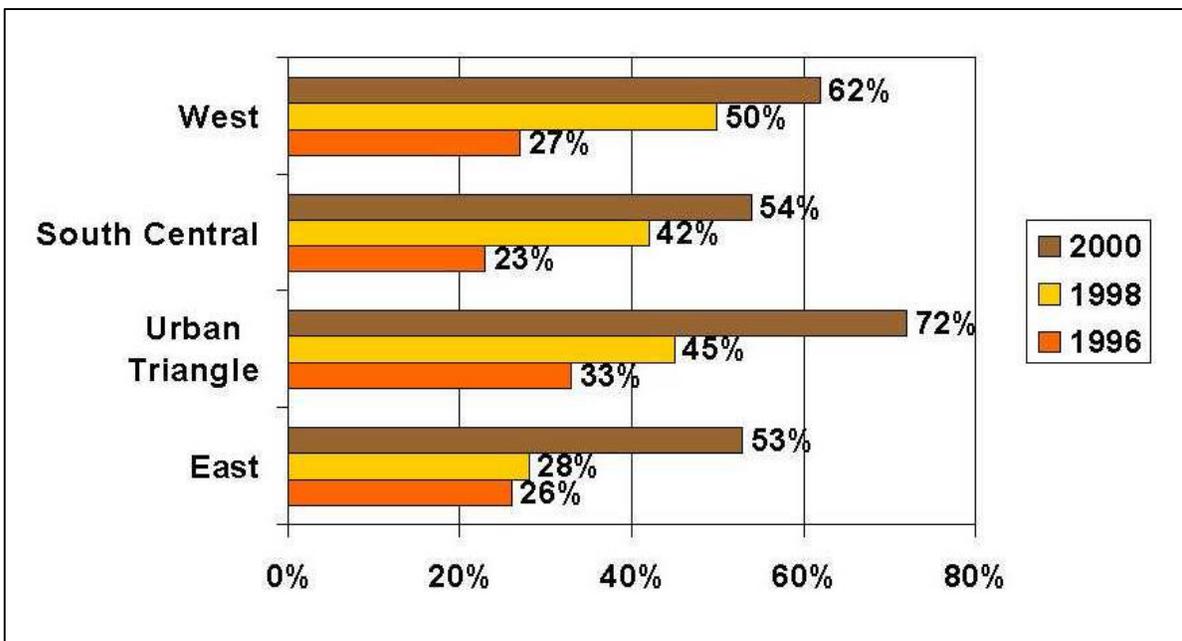


Slide 25



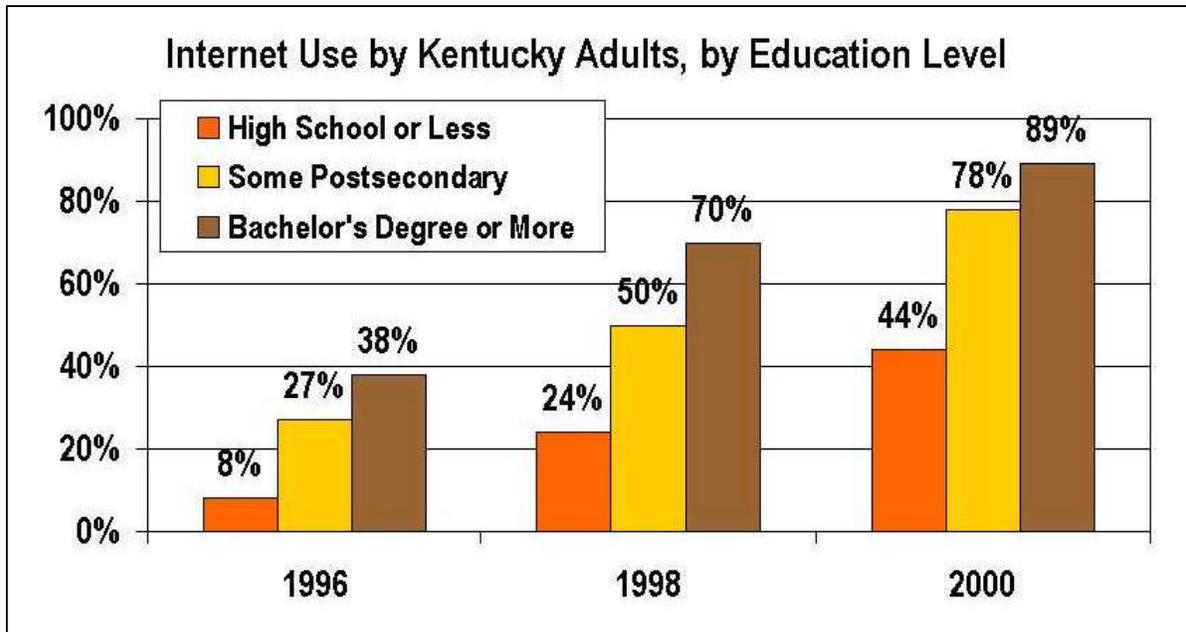
Slide 26

Internet Access by Kentucky Region



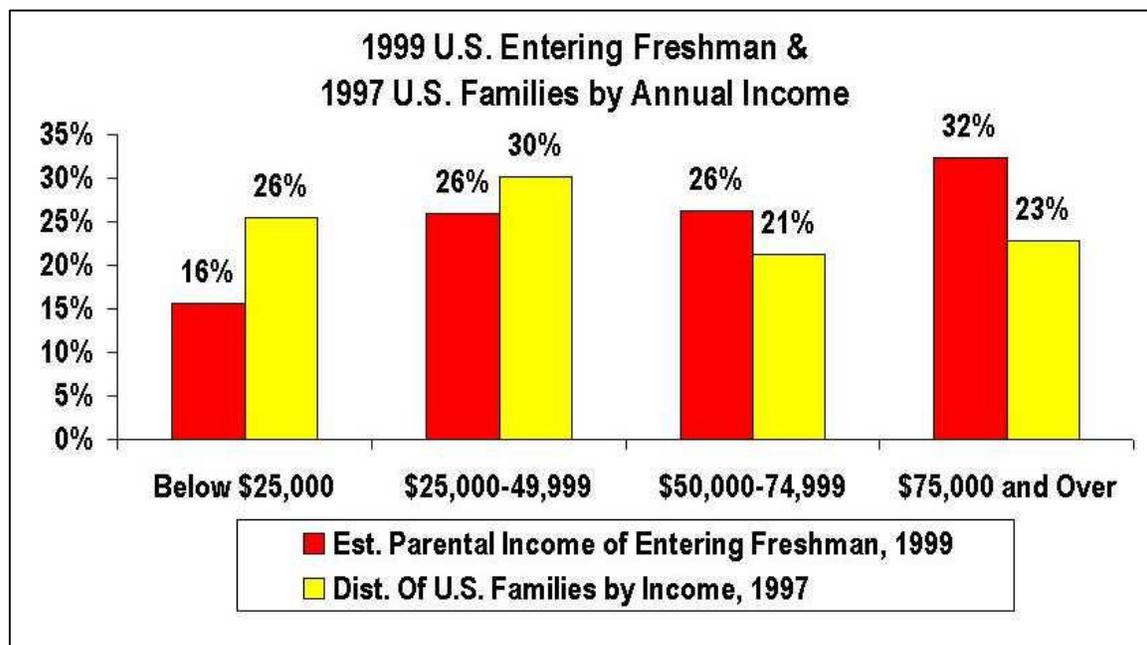
Slide 27

The Digital Divide



Slide 28

Incoming Freshman Do Not Reflect our Society



Slide 29

Probability of Attending School, 15 to 24 Years Old

Income Quartile	All	Men	Women
Kentucky			
Lowest	46	41	51
Highest	72	67	76
United States			
Lowest	57	56	57
Highest	76	76	77

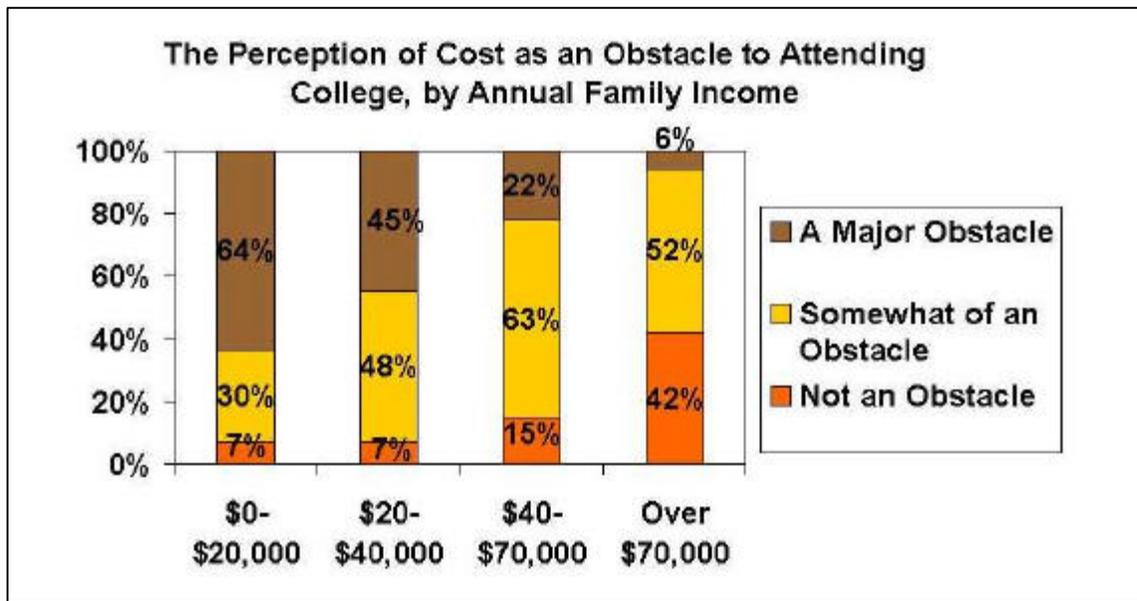
Slide 30

Less Likely to Take College Prep

Estimated Percent of 16- and 17-year-old Kentucky High School Students Who Have Taken College Preparatory Classes, by Family Income

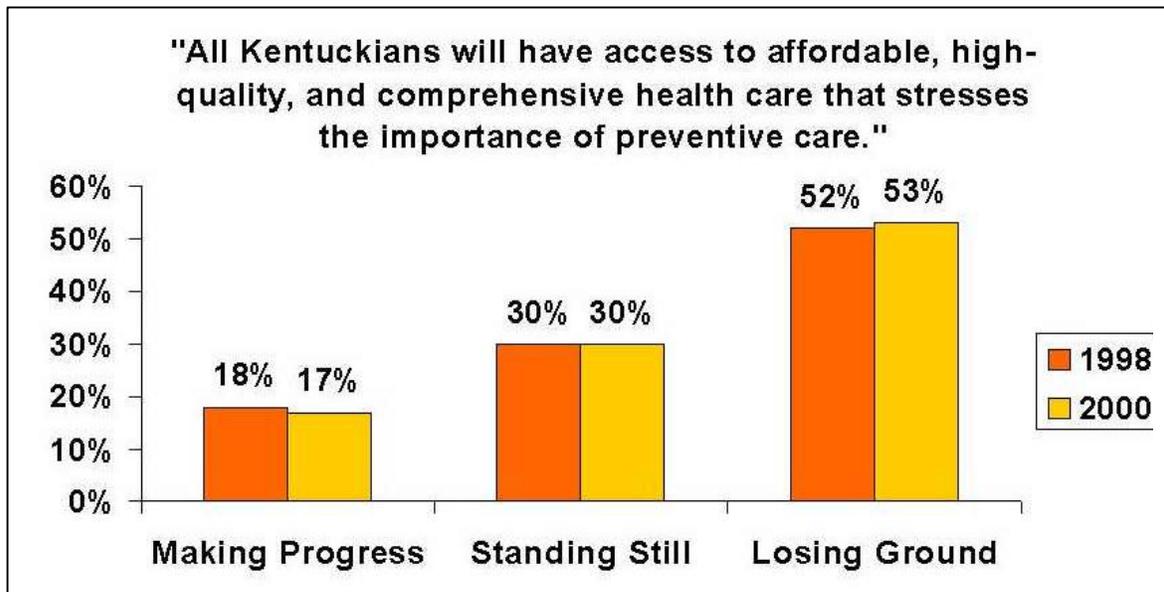
	Family Household Income, 1999			
	Less than \$20,000	\$20,000-\$40,000	\$40,001 to \$70,000	Over \$70,000
Algebra II	76	83	90	92
Chem I or Physics I	73	77	84	91
Foreign Language	51	59	77	89
AP	35	31	44	47

Slide 31



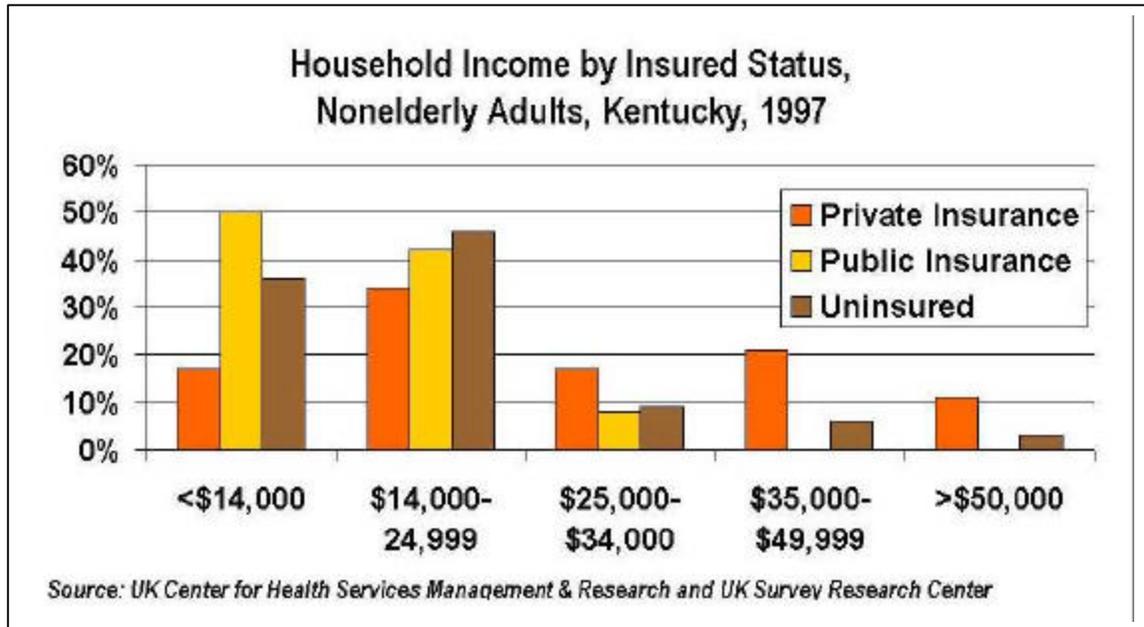
Slide 32

Kentuckians Think Health Care Most Important Goal

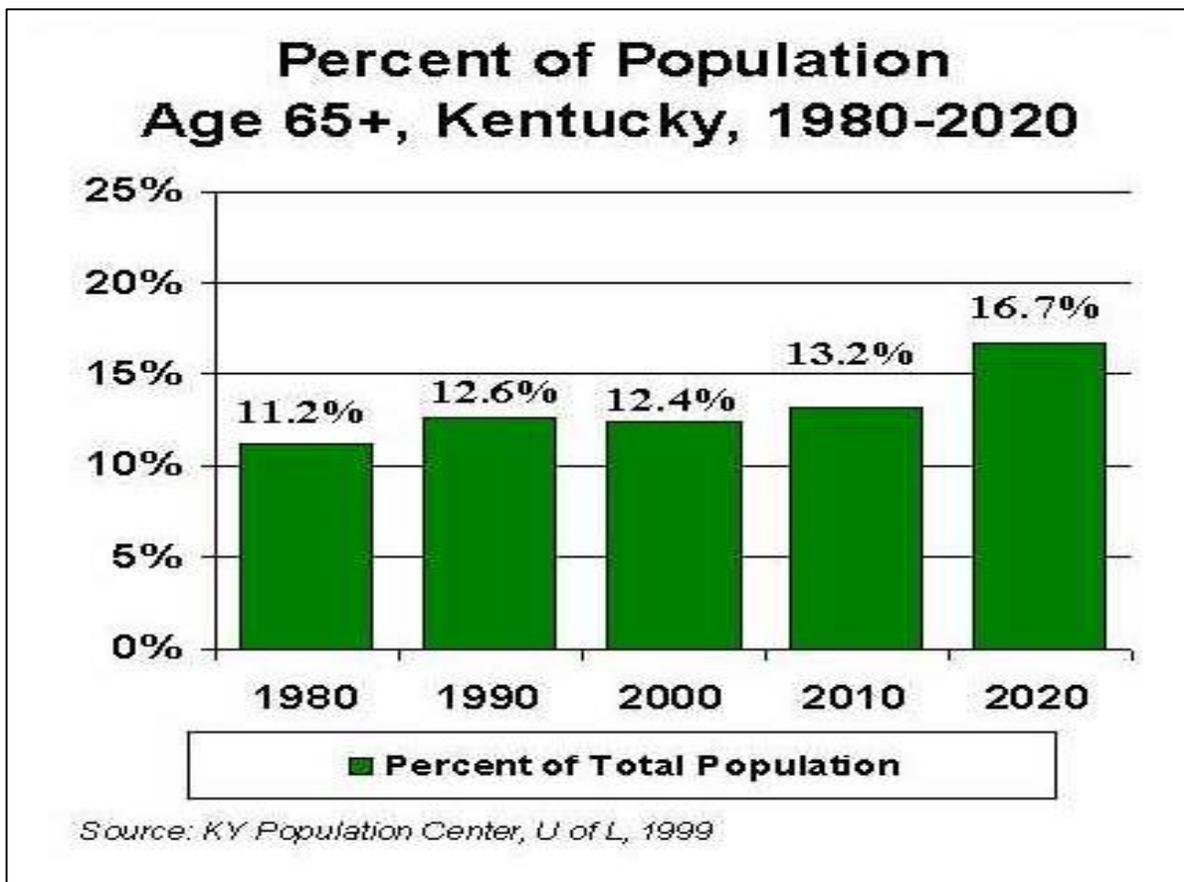


Slide 33

Health Insurance and Access to Care



Slide 34



Appendix B

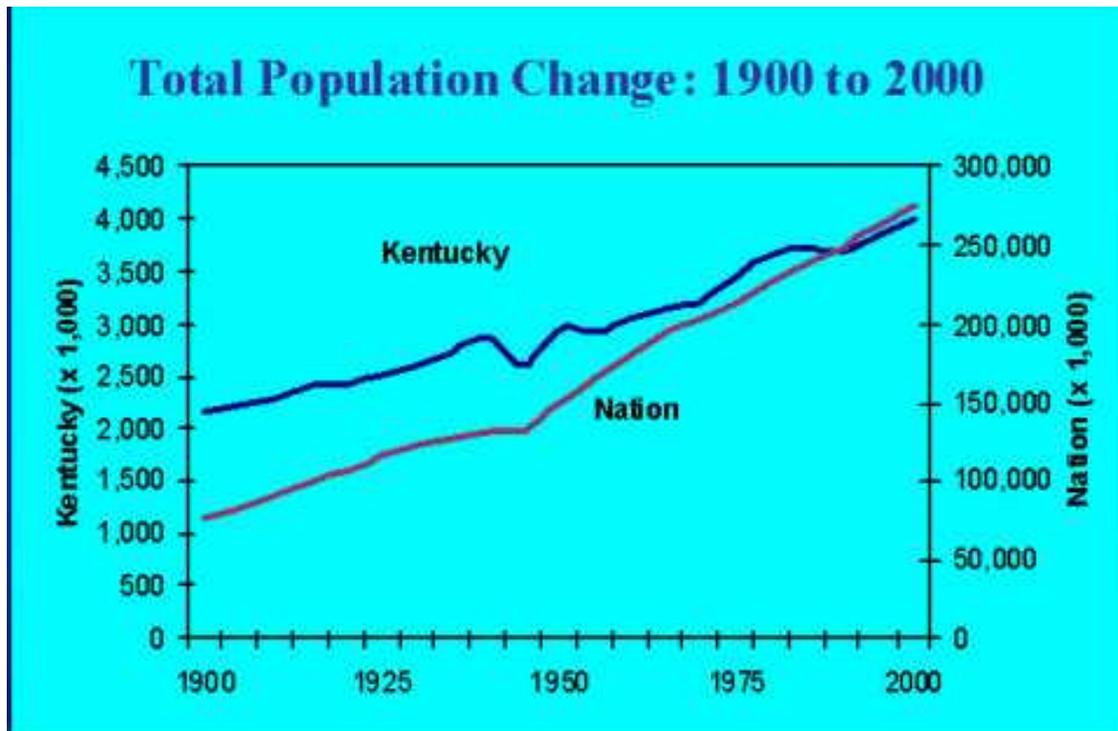
What Does the Aging of Kentucky's Population Portend for the Future?

***John Watkins
and
Michael Childress***

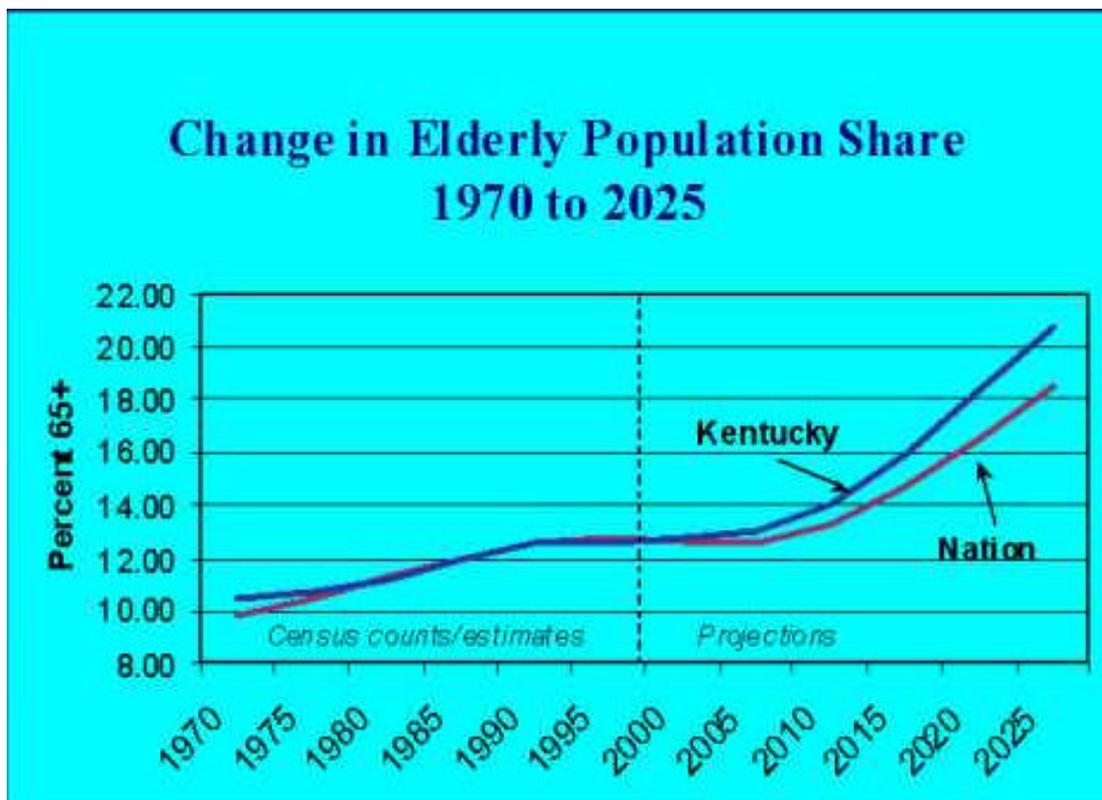
Appendix B

John Watkins Slides

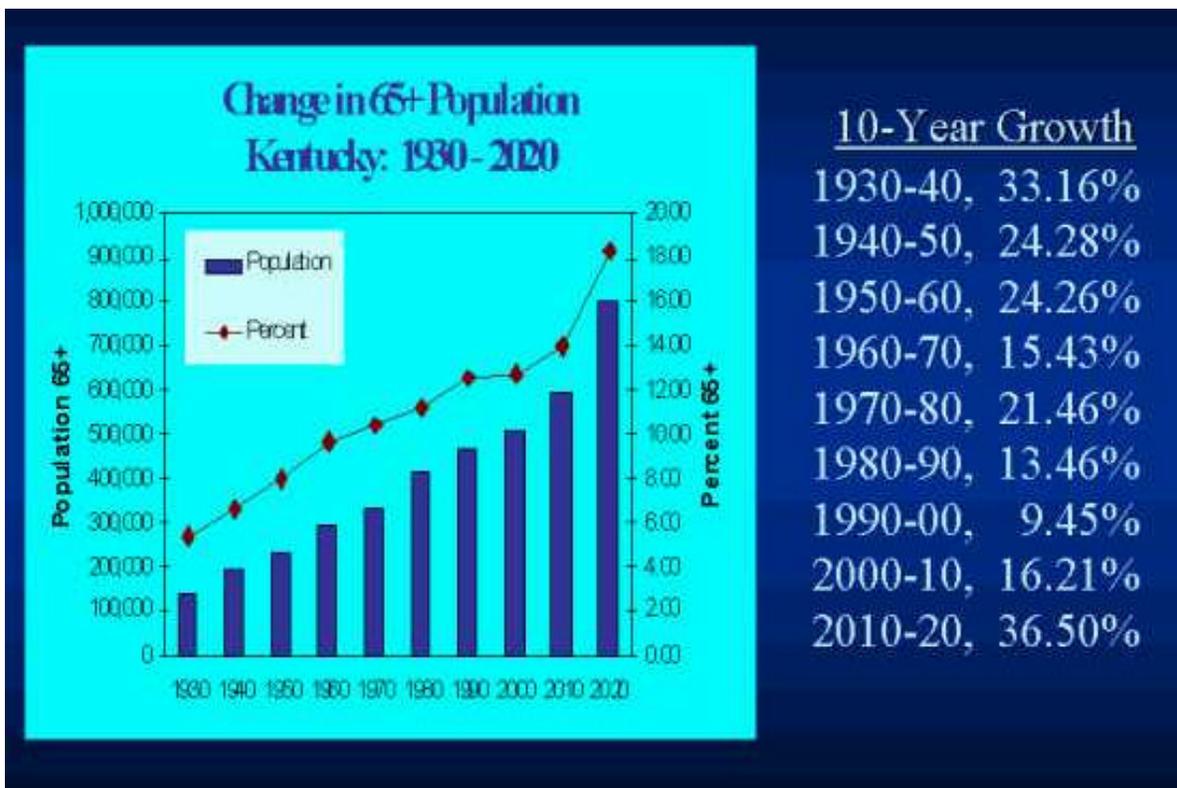
Slide 1



Slide 2



Slide 3

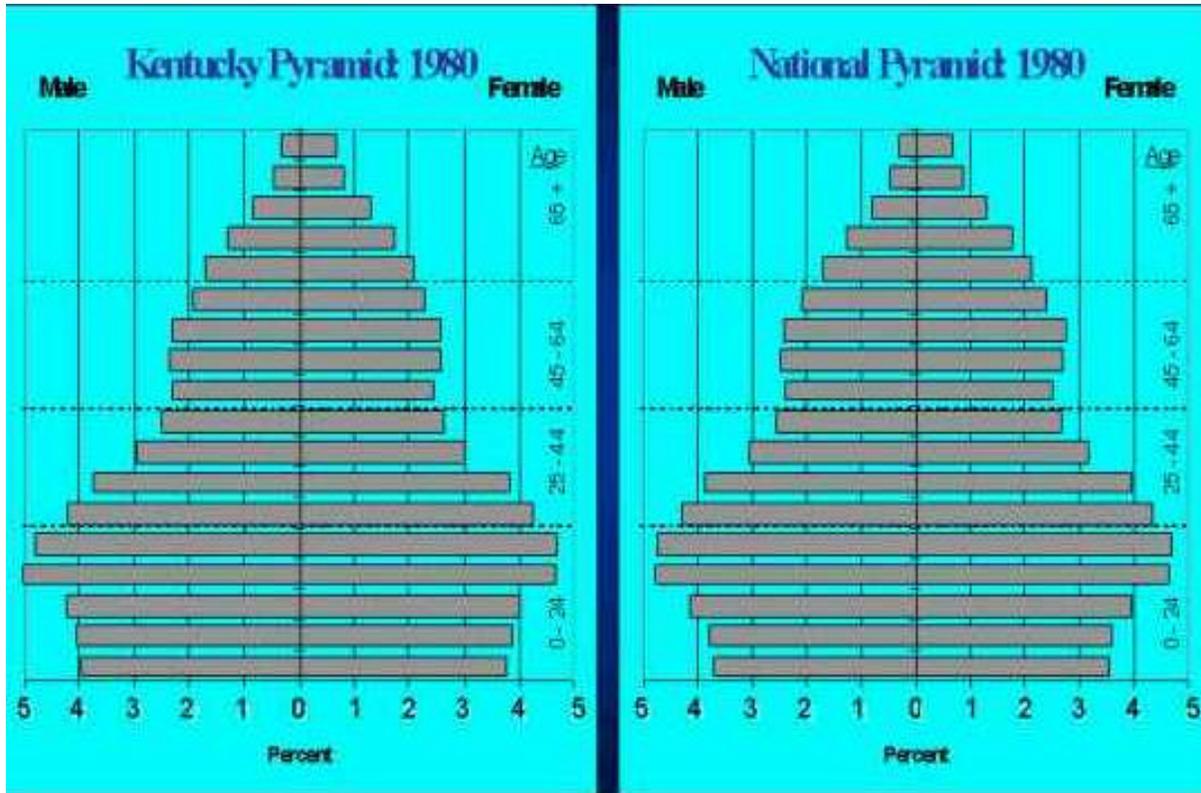


Slide 4

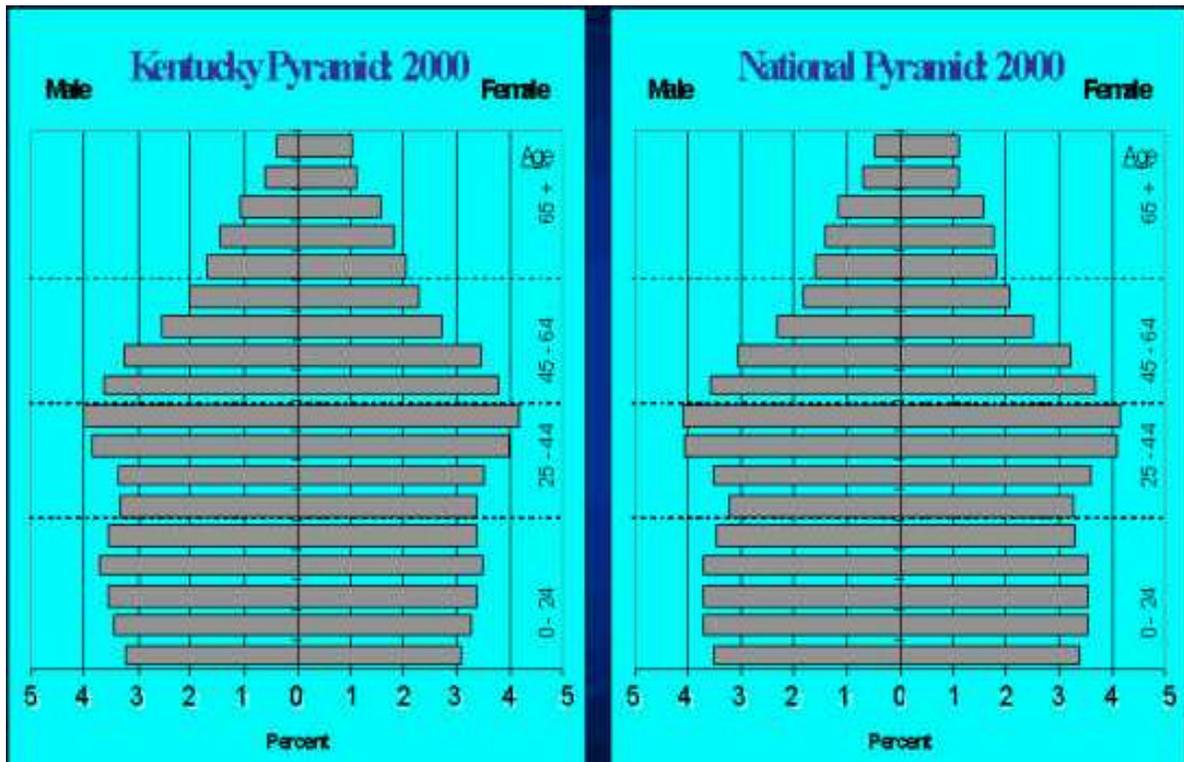
Projected age structure, 1980 to 2020: Kentucky and the Nation.

Age Group		Kentucky			Nation		
		1980	2000	2020	1980	2000	2020
0 to 44	Number	2,564,591	2,536,023	2,403,431	156,493,716	179,303,787	190,248,327
	Percentage	70.06	63.57	54.49	69.08	65.13	58.55
45 to 64	Number	666,358	944,567	1,200,054	44,502,662	61,167,298	80,945,616
	Percentage	18.75	23.68	27.21	19.64	22.22	24.91
65 to 74	Number	248,988	278,860	496,147	15,580,605	18,188,857	31,461,779
	Percentage	6.80	6.99	11.25	6.88	6.61	9.68
75 to 84	Number	125,804	172,873	231,805	7,728,755	12,334,552	15,507,700
	Percentage	3.44	4.33	5.26	3.41	4.48	4.77
85+	Number	35,036	57,222	79,382	2,240,067	4,311,884	6,763,276
	Percentage	0.96	1.43	1.80	0.99	1.57	2.08
65+	Number	409,828	508,955	807,334	25,548,427	34,835,293	59,732,755
	Percentage	11.20	12.76	18.30	11.28	12.85	16.54

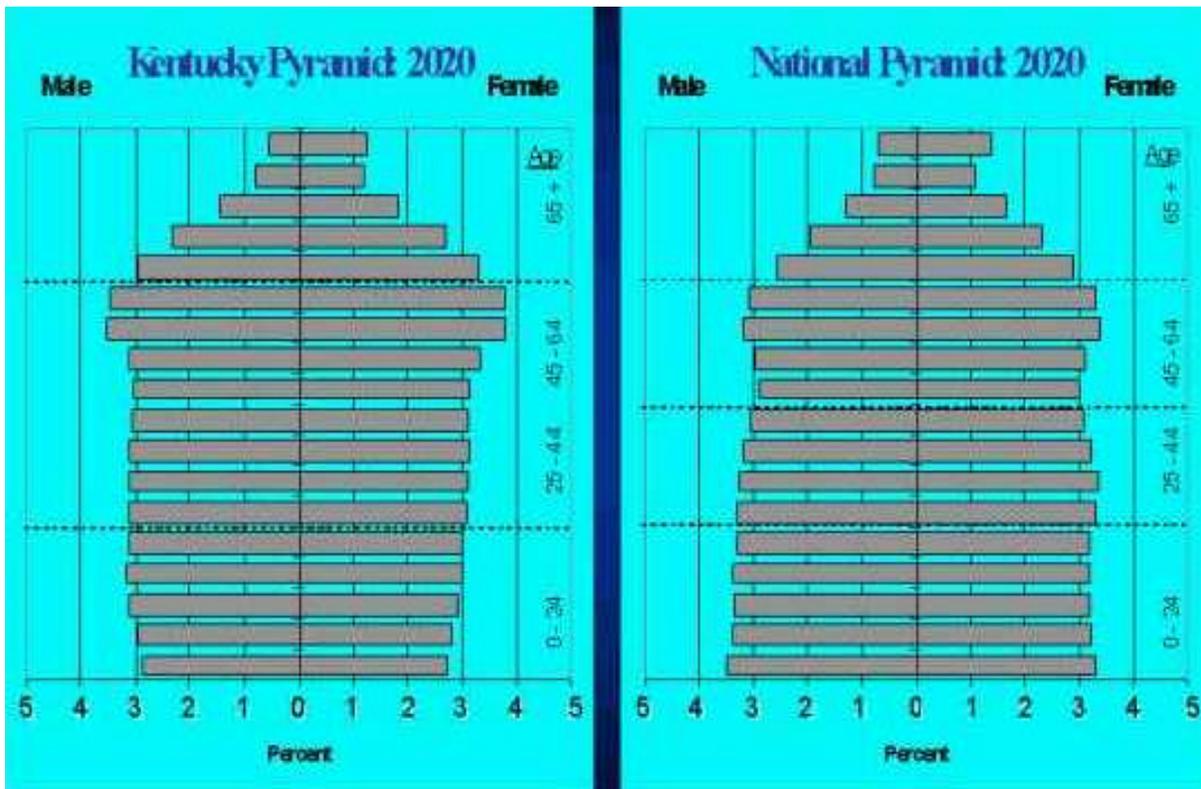
Slide 5



Slide 6



Slide 7



Change in Race/Ethnic Group Shares, Kentucky

Group	2000		2020	
	% of Total Age 65+	% of Total All Ages	% of Total Age 65+	% of Total All Ages
White	94.06	91.21	93.57	89.75
Black	5.21	7.14	5.01	7.68
Hispanic*	0.36	0.82	0.63	1.30
American Indian	0.13	0.16	0.19	0.19
Asian	0.25	0.69	0.60	1.08
Total	100.00	100.00	100.00	100.00

* Includes Hispanics of all races.

Appendix B

Michael Childress Slides

Slide 9

The Sample

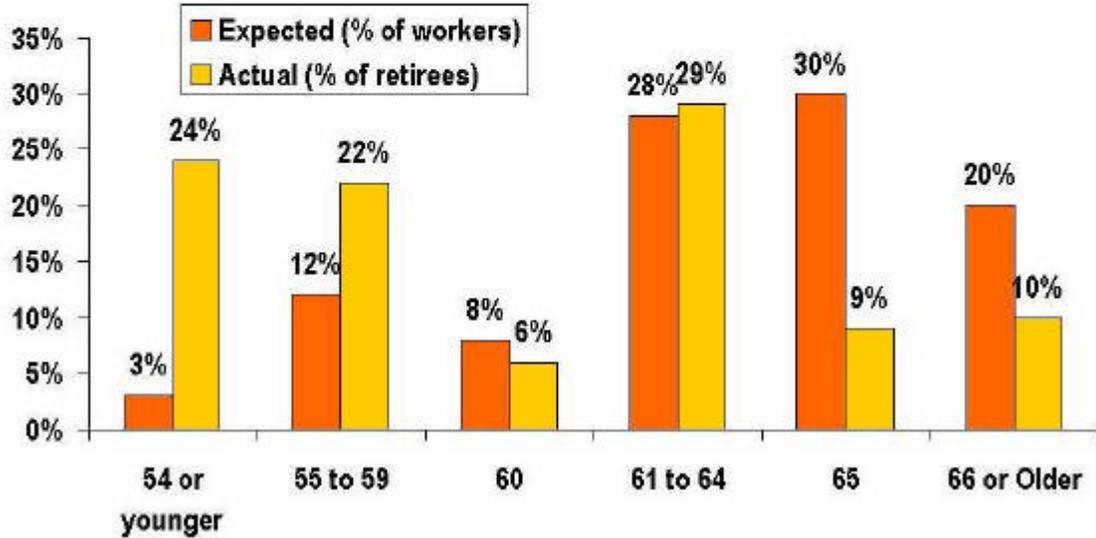
- Average age is 60.6 (45 to 93 years)
 - 31% over 65-years-old
- 45% retired
- 95% white
- 52% female
- 49% urban
 - 16% west, 16% south central, 19% east, and 49% urban triangle

Slide 10

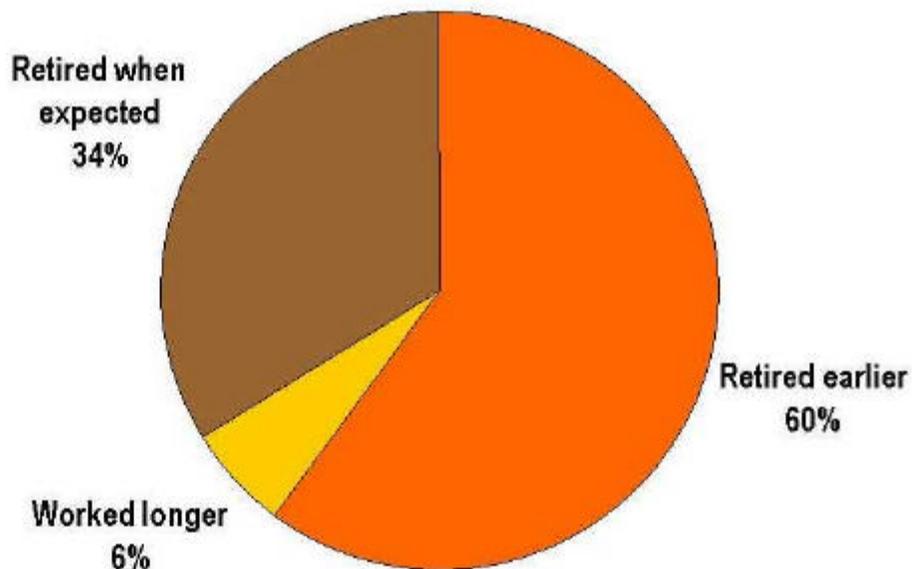
The Sample, continued

- Education
 - 23% less than high school diploma
 - 36% high school diploma or GED
 - 23% some college
 - 19% bachelor or greater
- Income
 - 21% under \$15,000 annual household income
 - 26% between \$15,000 and \$29,999
 - 22% between \$25,000 and \$49,999
 - 31% over \$50,000

Expected and Actual Retirement Age

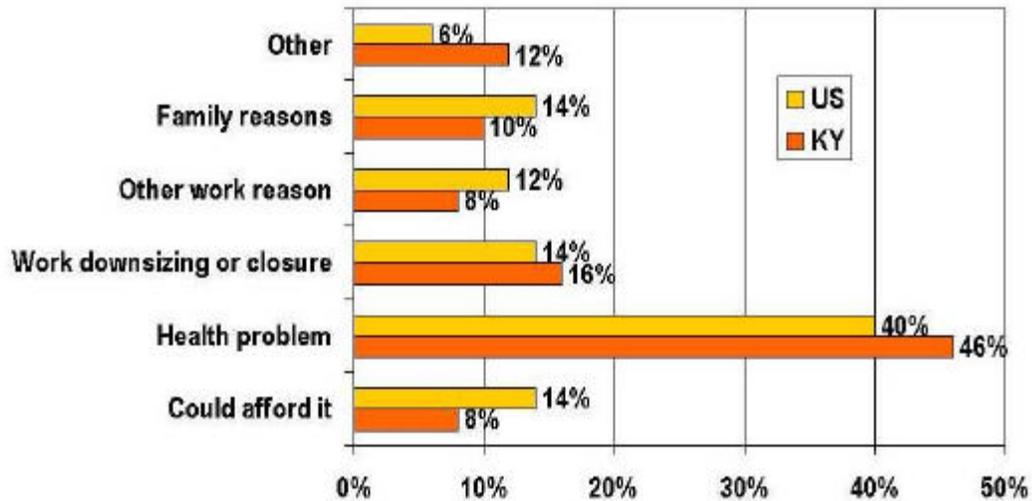


Did you retire when expected?



Slide 13

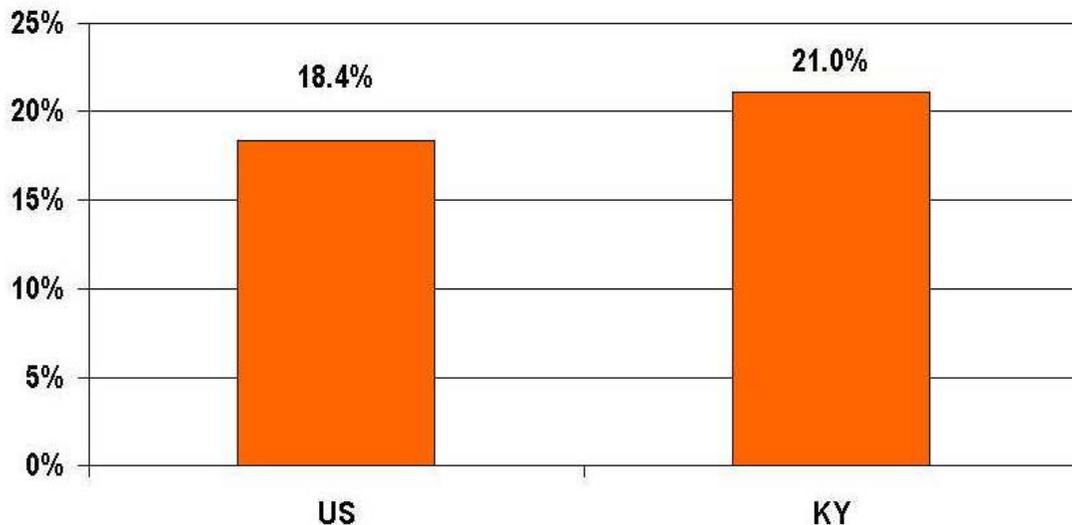
Why did you retire earlier than planned?



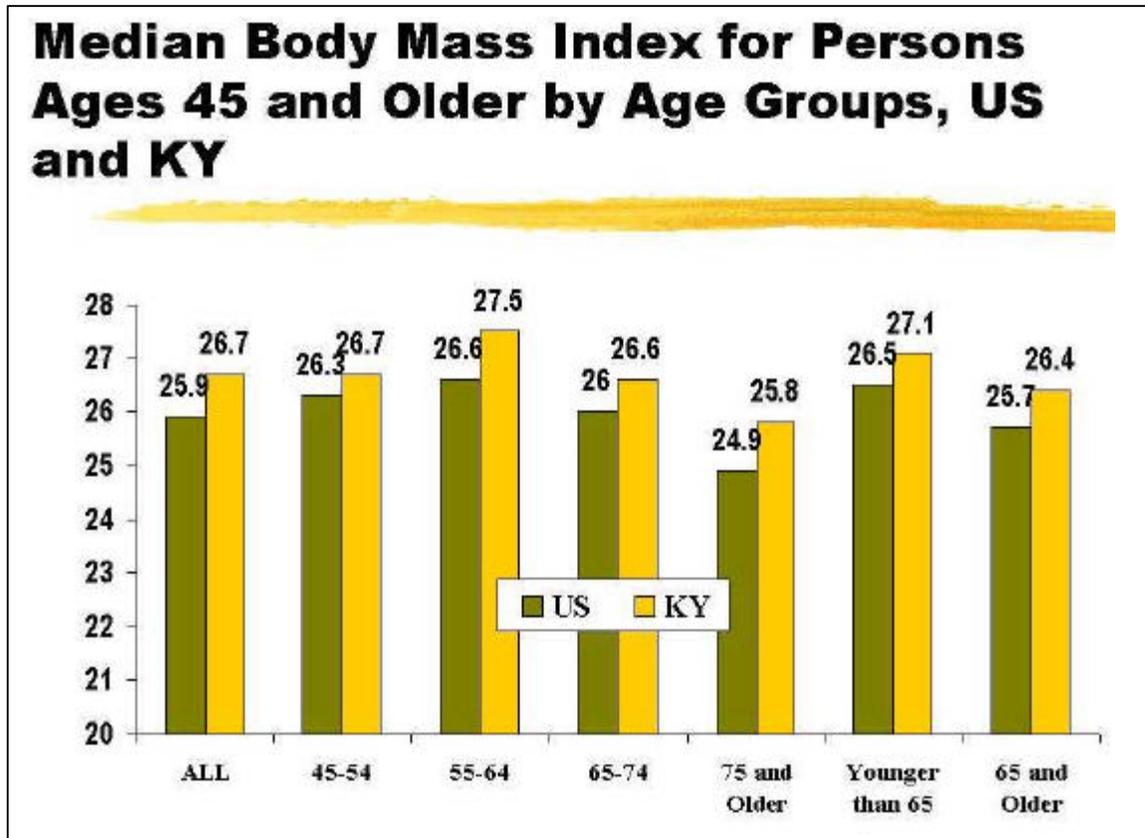
Source: Employee Benefit Research Institute (EBRI) and Kentucky Retirement Survey.

Slide 14

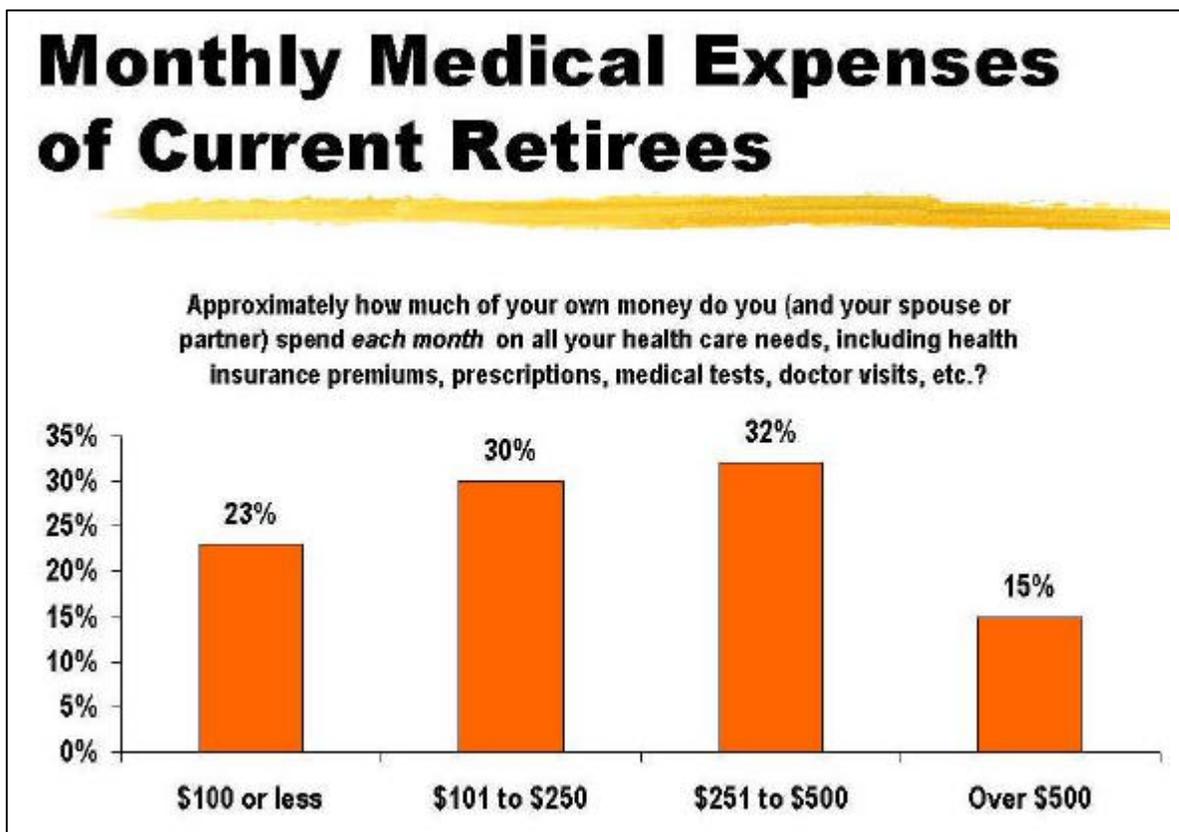
Percentage of Smokers Ages 45 and Older, US & Kentucky



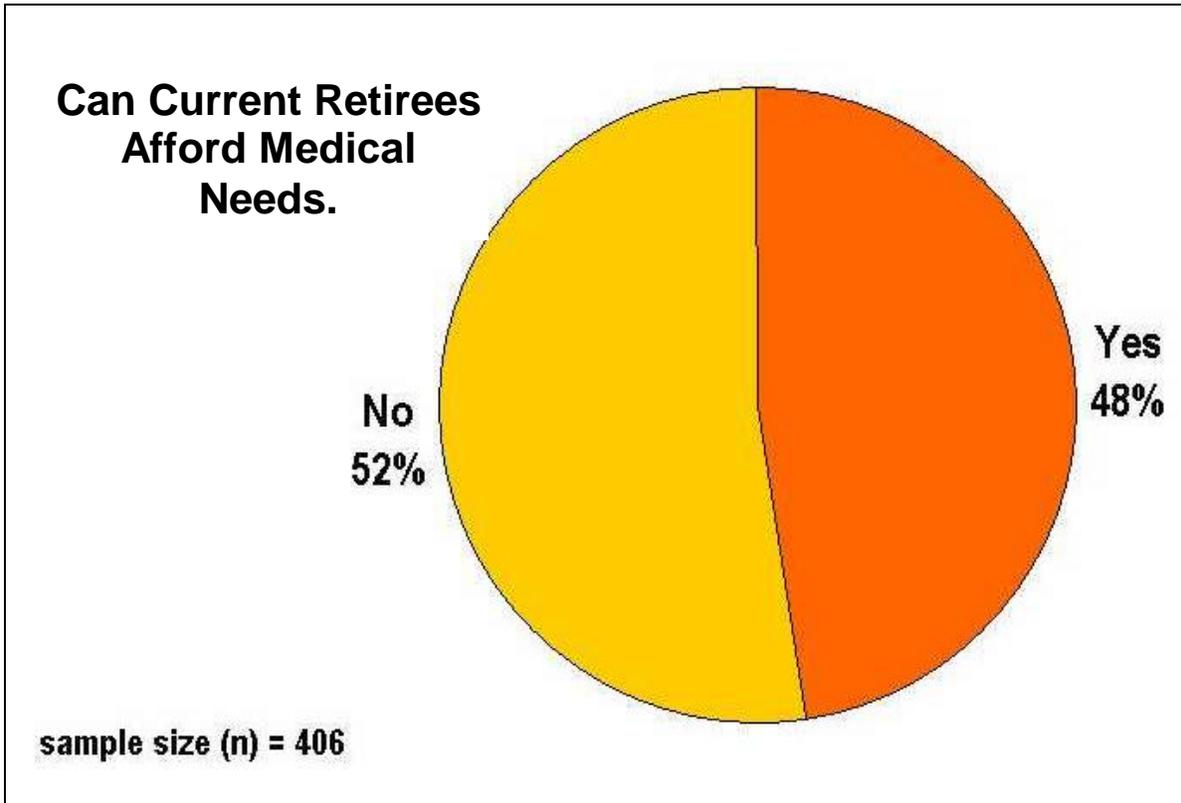
Slide 15



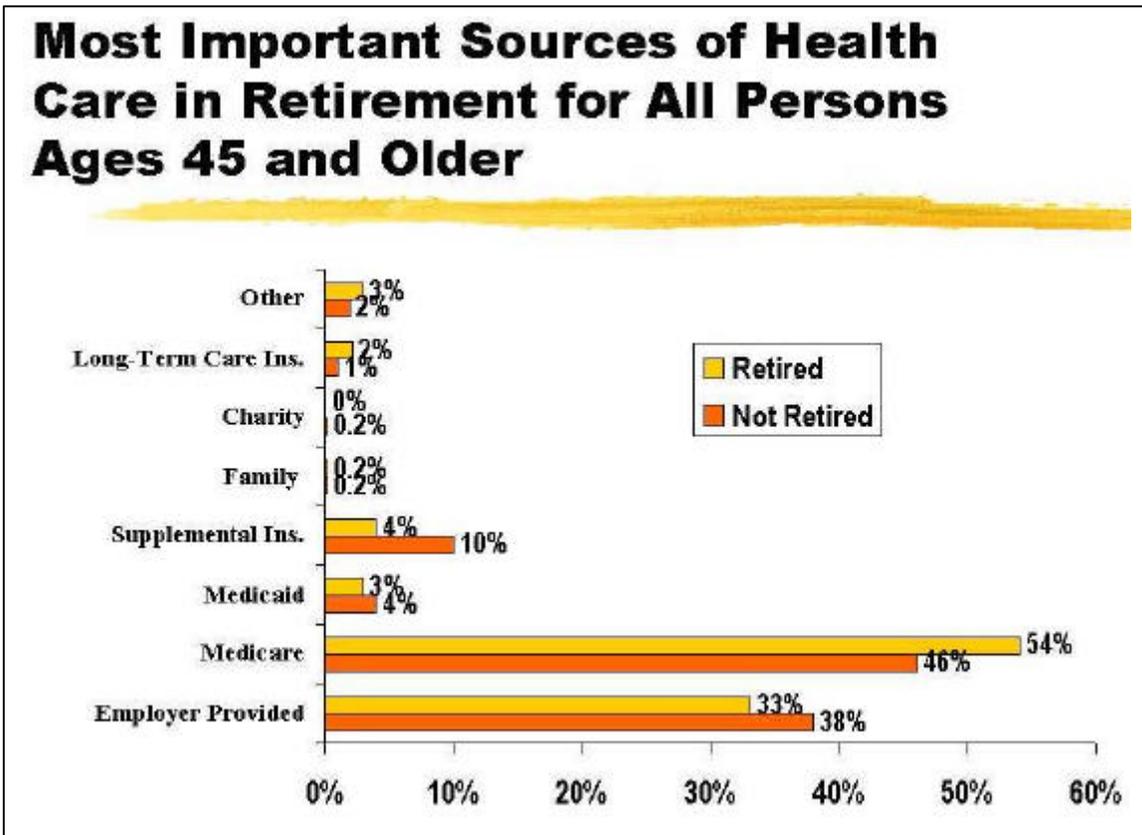
Slide 16



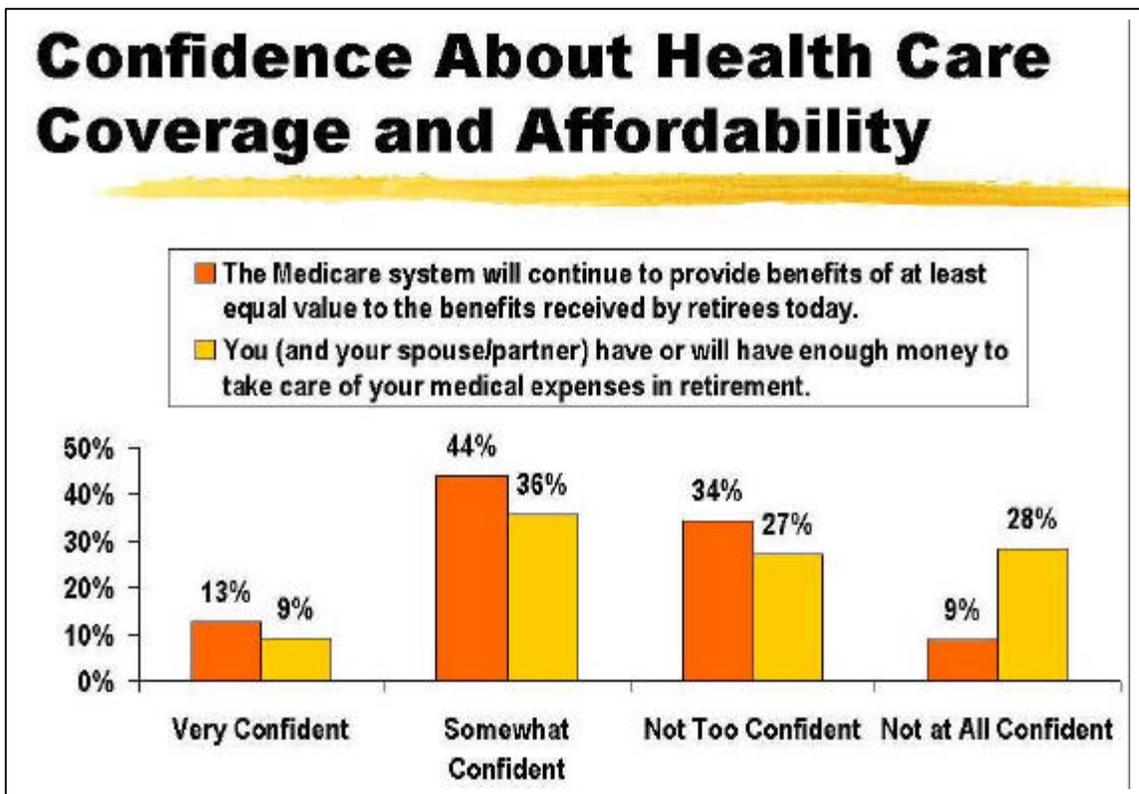
Slide 17



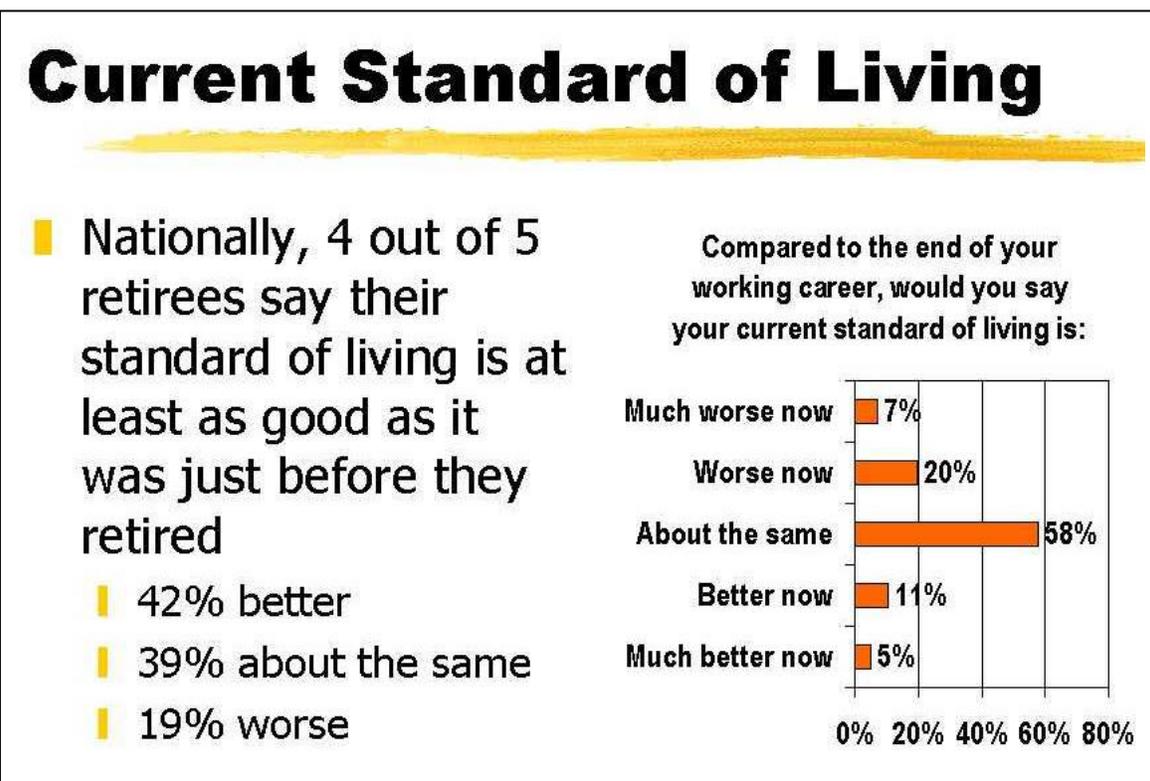
Slide 18



Slide 19



Slide 20

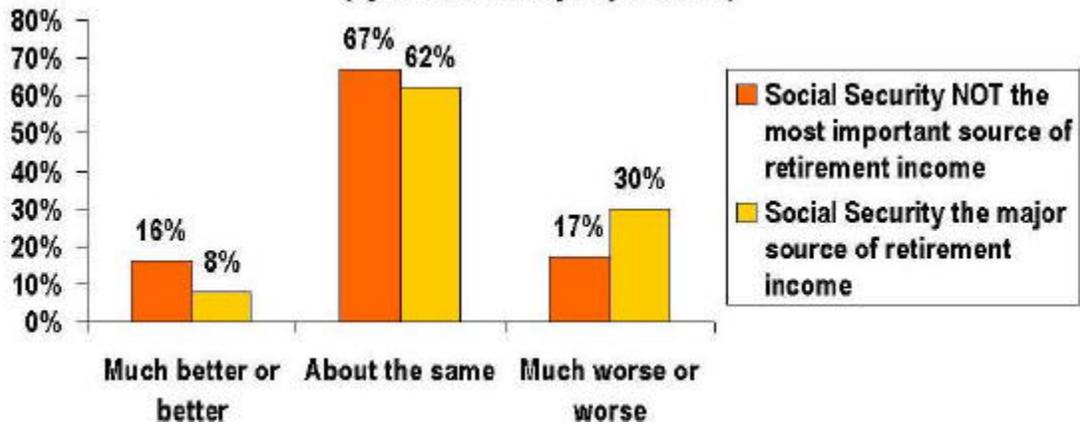


Slide 21

Social Security and Standard of Living

Compared to the end of your working career, would you say your current standard of living is better, the same, or worse?

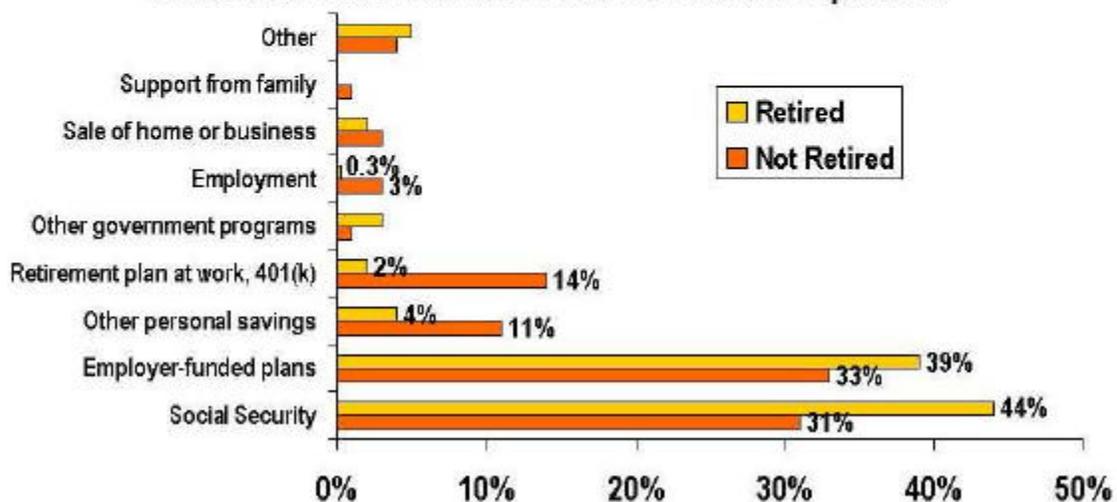
(by Social Security Dependence)



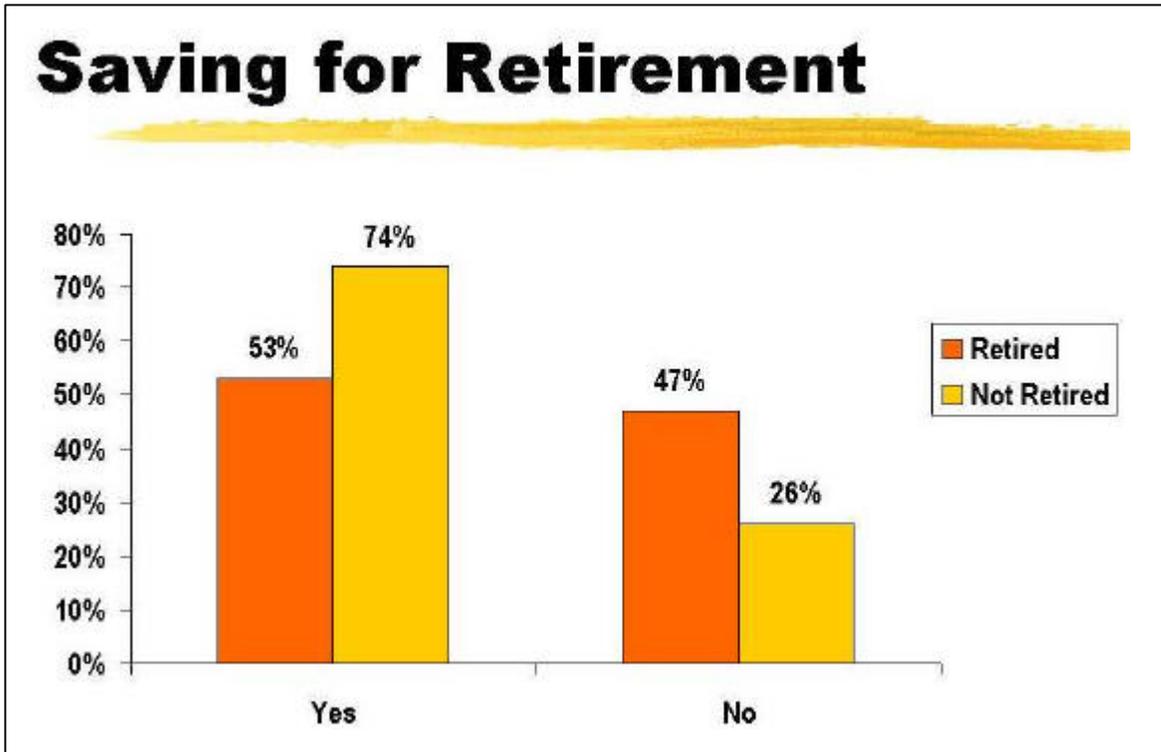
Slide 22

Sources of Retirement Income

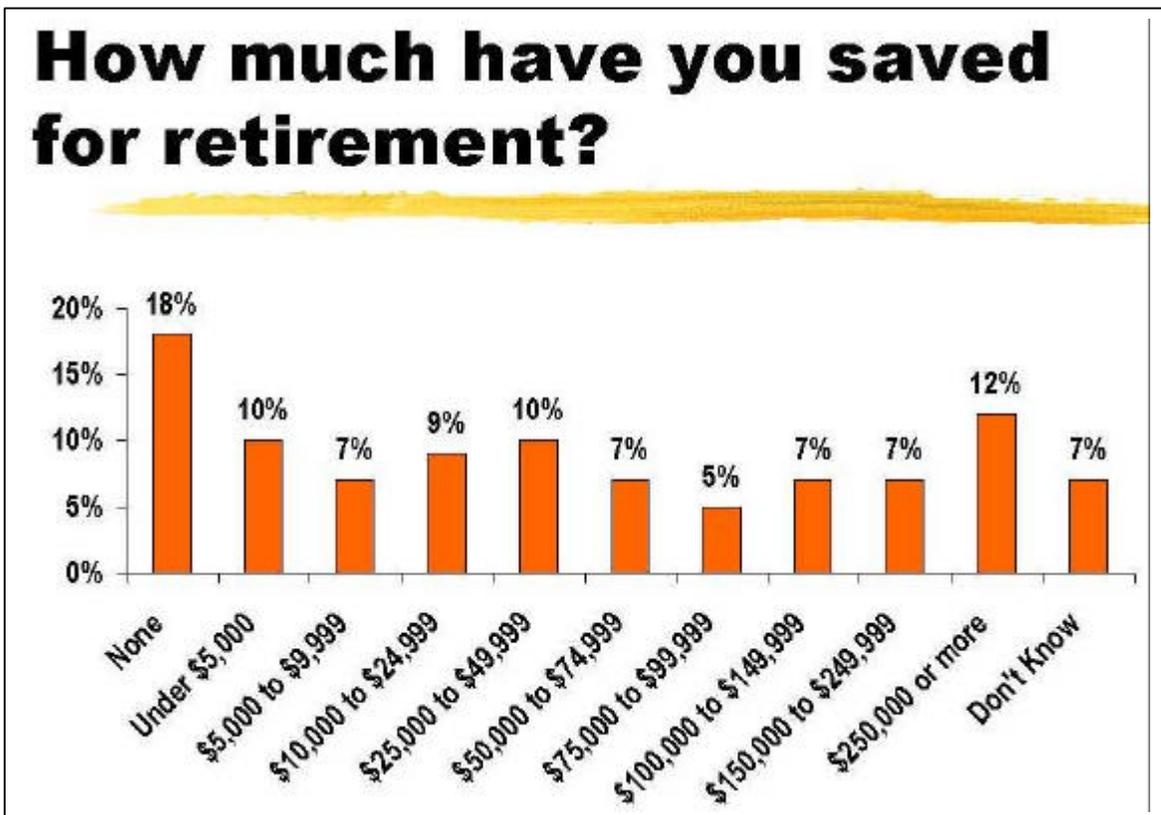
Which Source of Income will be or is the Most Important?



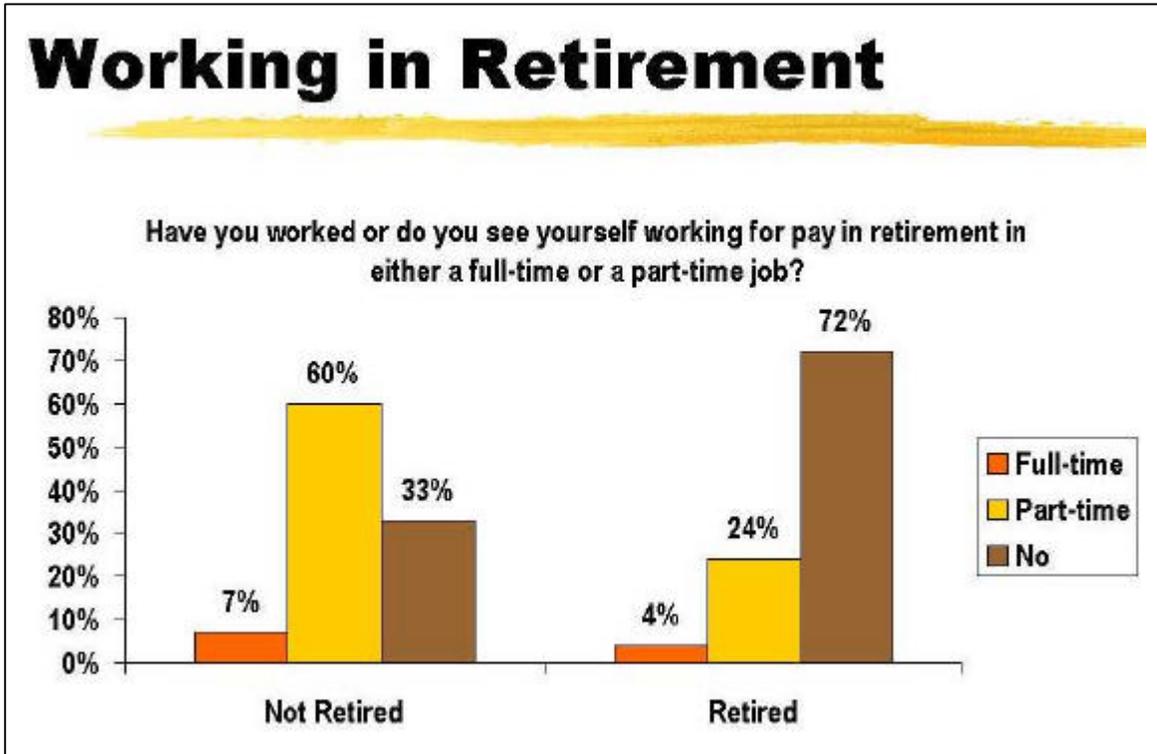
Slide 23



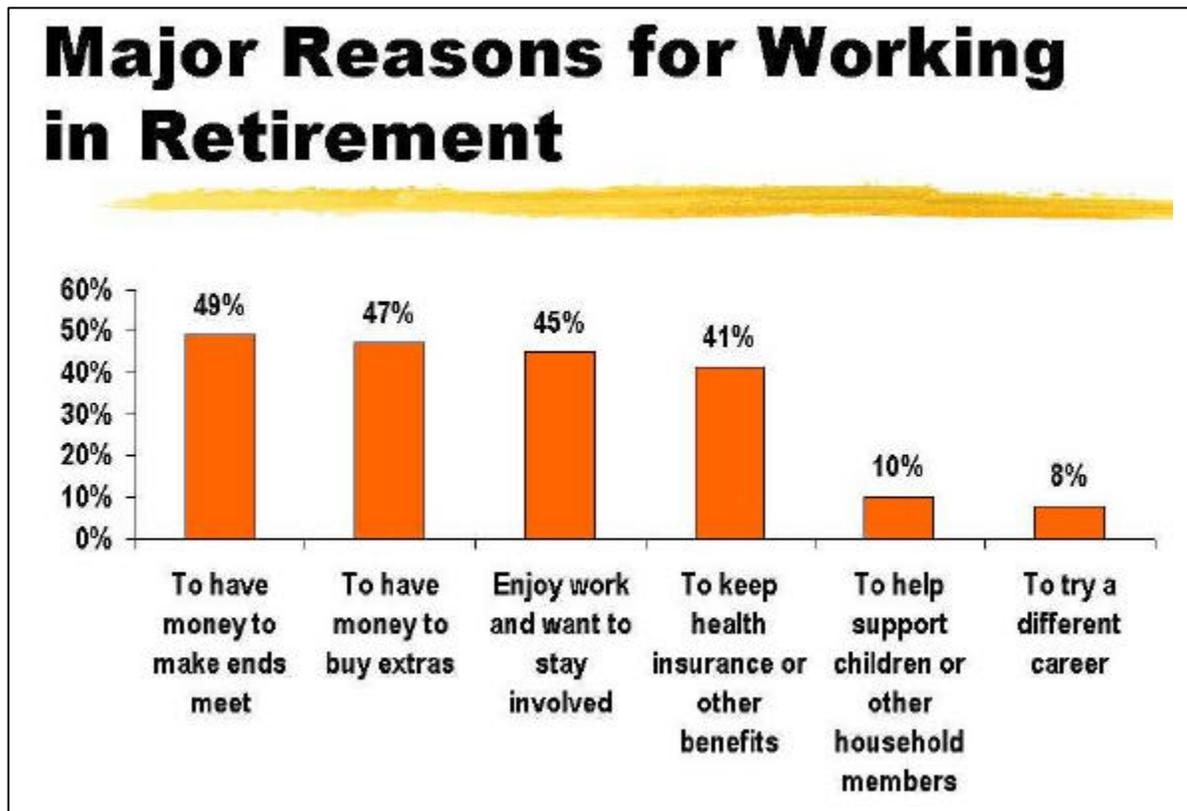
Slide 24



Slide 25



Slide 26



Slide 27

Confidence About Retirement Finances

	Very Confident	Somewhat Confident	Not Too Confident	Not at All Confident
The Social Security system will continue to provide benefits of at least equal value to the benefits received by retirees today.	16%	47%	28%	9%
You invested or are investing your savings wisely.	24	43	15	18
You (and your spouse/partner) have or will have enough money to take care of your basic expenses during your retirement.	21	47	17	15
You (and your spouse/partner) have or will have enough to support you in retirement, no matter how long you live.	12	40	23	25

Slide 28

How Important is Government Support?

	Very Important	Somewhat Important	Not Very Important
Income support	67%	26%	7%
Medical care	86	11	15
Prescription drug coverage	82	13	4
Long-term care or nursing home needs	70	26	4
Hands-on help with such things as transportation, housekeeping & cooking	45	44	11
Assisted-living communities	48	40	12

Slide 29

Tying Government Services to Financial Need

"Financial need should be used to determine how much support older people receive:

	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree
... from Social Security."	52%	22%	9%	16%
... from Medicare."	55	25	9	12
... for prescription drug coverage."	55	26	9	10
... for long-term care."	53	30	9	7
... for hands-on help with such things as transportation, housekeeping, cooking, etc."	42	39	11	8

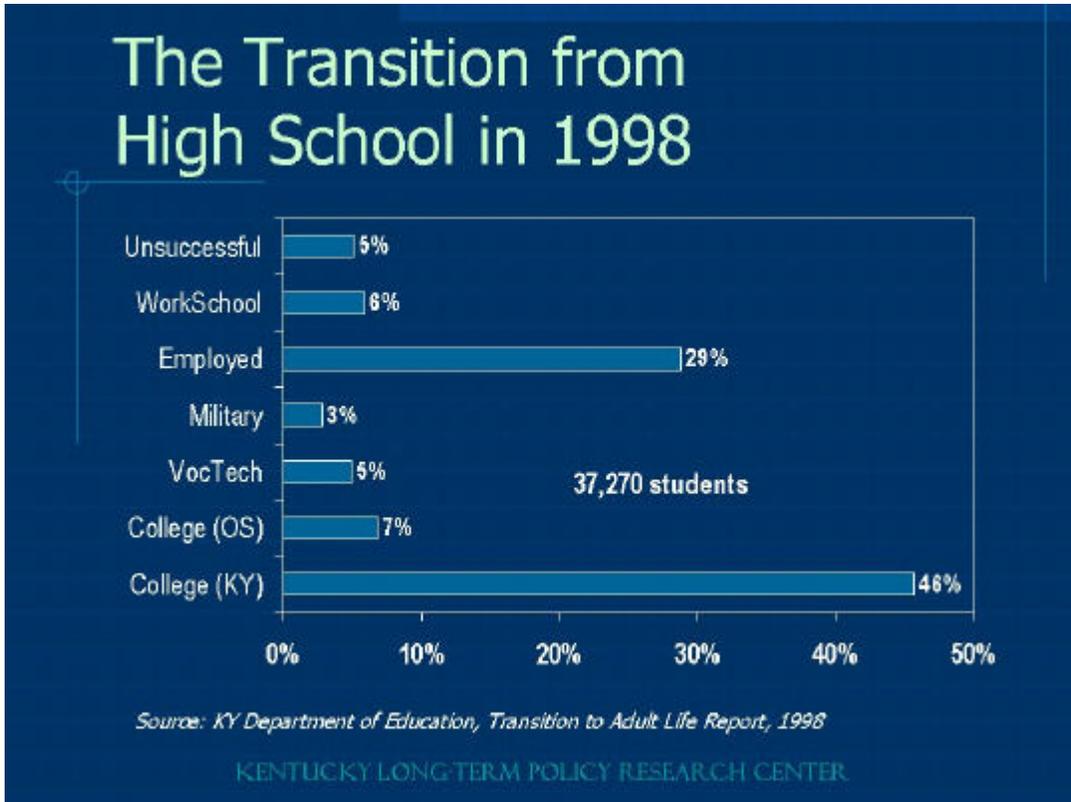
Appendix C

***What is the Future of Postsecondary
Education in Kentucky and How Can We
Increase the Number of Students?***

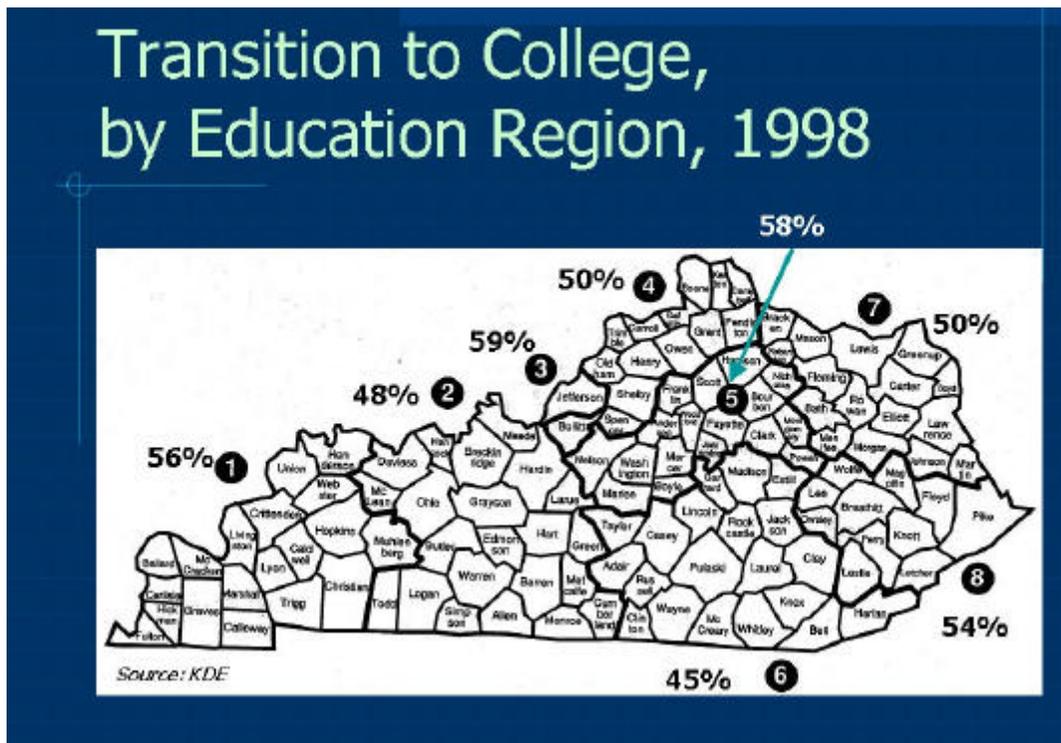
Appendix C

Michal Smith-Mello's Slides

Slide 1



Slide 2



Slide 3

Understanding Variations in Postsecondary Outcomes

- ◆ 1998 data show wide variation in college-going rates among high schools
 - Highest=95 percent
 - Lowest=17 percent
 - Average about 53 percent
- ◆ Used multiple regression analysis
 - To better understand independent effects of variables, such as:
 - Educational, income, rural-urban, employment status of the area
 - Size, spending levels, percent receiving free lunches, CATs performance, teacher experience of the school
 - To predict college-going rates
 - To identify over- and under-achievers

Slide 4

Examples of Our Findings . . .

- ◆ Model predicts a college-going rate of 40 percent for one high school . . . the actual going rate was nearly 70 percent
- ◆ Model predicts a college-going rate of 45 percent for one high school . . . the actual going rate was under 30 percent
- ◆ Significance of variables as predictors:
 - CATs (Core Content) performance (++)
 - Education level of county/zip code (++)
 - Free/reduced lunch (-)
 - Parent-teacher conference participation
 - Postsecondary institution in county (++)
 - Size of enrollment (-)
 - Spending per pupil
 - Teacher experience
 - Unemployment rate in county (++)
 - Urban-rural (mixed)

Slide 5

What did we learn?

- ◆ School leadership matters
 - Quality
 - Stability
- ◆ School culture is critical
 - Obsessive focus on discipline alienates students, undermines trust
- ◆ High expectations get results
- ◆ Strong guidance counseling systems help leverage higher college-going rates . . .
 - Motivation
 - Information
- ◆ High levels of student knowledge about college linked to higher performance
- ◆ Programmatic responses get results
 - AVID model
 - Peer tutoring
 - Crisis intervention
- ◆ Diverse outcomes-oriented extracurricular activities a positive influence
 - Site visits to colleges
- ◆ Good teachers make a difference . . .
 - Caring, compassionate
 - Know subject matter
 - Focused on student comprehension
 - "No favorites" approach

Slide 6

What did we learn?

- ◆ Individualized instruction exists largely on paper
- ◆ Presence of mentors from diverse backgrounds appears to have positive effect
- ◆ Student perceptions may affect outcomes
 - Affordability of college
 - Possibility of college
 - Indifference of teachers, parents, etc.
- ◆ Condition of local economy has an inverse relationship to college-going rates
- ◆ Local presence of college appears a positive factor
- ◆ Parental/community involvement appears to play positive role
- ◆ Lack of school resources may affect outcomes
- ◆ Appealing physical environment associated with positive results
- ◆ Demands of work likely affecting academics & postsecondary choices
- ◆ Principals believe students have no incentive to perform well on CATs, and KEES criteria is discouraging AP course-taking

Appendix C
Corrie Orthober's Slides

Slide 7

Research Questions & Selection Criteria

- ◆ Research questions:
 - Does teaching “out of field” affect college-going rates?
 - Are the academic histories of teachers linked to the college-going rates of their students?
- ◆ Selected high schools for study based on findings from multiple regression analysis
 - Under-performer selected from schools sending far lower percentage of students to college than model predicted
 - Over-performer selected from schools sending much higher percentage of students to college than model predicted

Slide 8

Methodology

- ◆ Examine teacher certification files
 - Courses Taught in 1999-2000
 - Certification status
 - Academic preparation
 - ◆ GPA
 - ◆ Course work
 - Any other interesting factors that arise
- ◆ Work in progress

Slide 9

Our Findings

<u>GPA Range</u>	<u>Under-performer</u>	<u>Over-performer</u>
Undergraduate	2.1 - 4.0	2.2 - 4.0
Graduate	2.7 - 4.0	2.5 - 4.0
<u>Average GPA</u>		
Undergraduate	2.9	2.7
Undergraduate Major	3.1	3.0
Undergraduate Minor	2.9	3.0
Graduate	3.6	3.5
<u>Range of Years Teaching</u>	1962 - 2000	1966 - 1999
<u>Average Number of Years</u>	12.3	12
<u>Percent Teaching In-Field</u>	90%	97%

Slide 10

Preliminary Conclusions

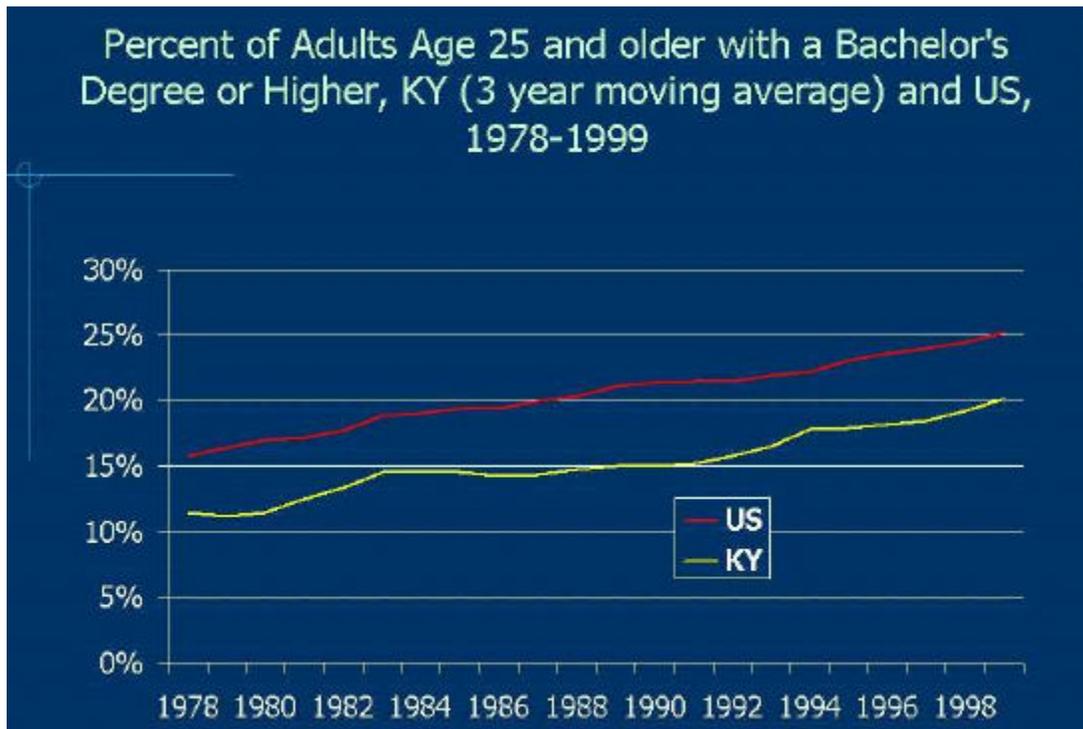
- ◆ Find no significant differences in academic histories of teachers from over- and under-performing schools
- ◆ Find no significant differences in extent of teacher experience
- ◆ Find that those teaching out-of-field are certified for:
 - Middle school
 - Elementary special education

Preliminary Conclusions

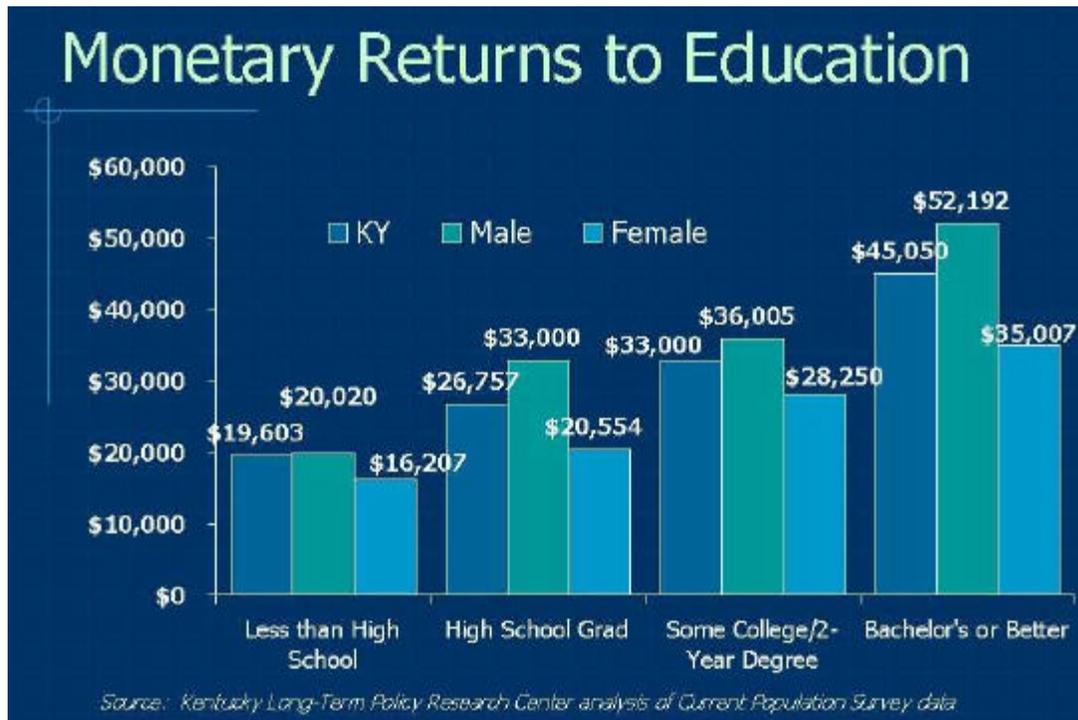
- ◆ Level of regional attachment—social capital —may be most significant factor
 - Majority of teachers in over-performer school
 - ◆ Graduates of the high school
 - ◆ Attended a regional community college
 - ◆ Attended a regional university
 - Majority of teachers in under-performer school
 - ◆ Graduates of other high schools
 - ◆ Graduates of various colleges/universities

Appendix C
Amy Watts' Slides

Slide 12



Slide 13



Slide 14

Economic Benefits of "Going to College"

- ◆ **Private Economic**
 - **Higher Salaries and Benefits**
 - Employment
 - Higher Savings Levels
 - Improved Working Conditions
 - Personal/Professional Mobility
- ◆ **Public Economic**
 - **Increased Tax Revenues**
 - Greater Productivity
 - Increased Consumption
 - Increased Workforce Flexibility
 - **Decreased Reliance on Government Financial Support**

Source: Institute of Higher Education Policy

Slide 15

Social Benefits of "Going to College"

- ◆ **Private Social**
 - **Improved Health/ Life Expectancy**
 - **Improved Quality of Life for Offspring**
 - Better Consumer Decision Making
 - Increased Personal Status
 - More Hobbies, Leisure Activities
- ◆ **Public Social**
 - **Reduced Incarceration and Crime Rates**
 - **Increased Volunteerism and Charitable Giving**
 - Increased Quality of Civic Life
 - Social Cohesion/ Appreciation of Diversity
 - **Improved Ability to Adapt to and Use Technology**

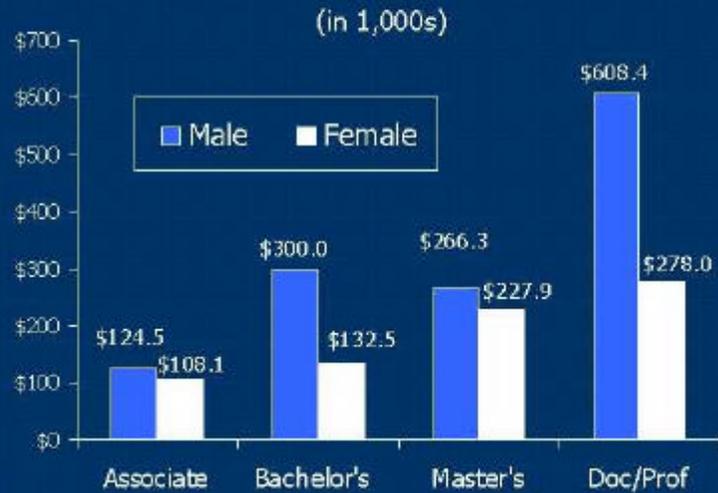
Source: Institute of Higher Education Policy

Slide 16

Private Economic Benefits of Educational Attainment

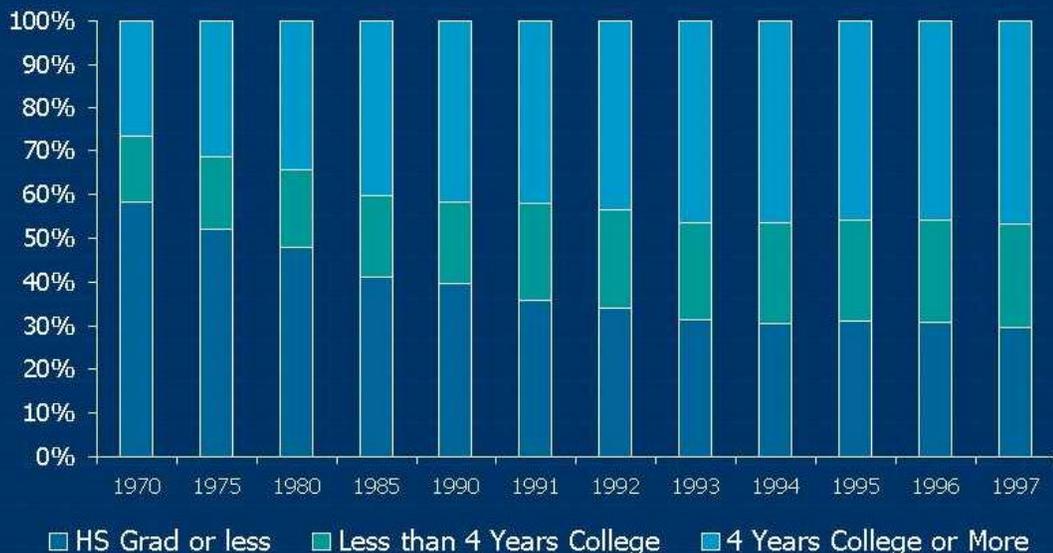
- ◆ Berger and Black, 1993
- ◆ Benefit-cost analysis using one benefit: private earnings
- ◆ \$6.9 billion return on General Fund investment of \$672 million
- ◆ Annual Return as % of General Fund Exp: 186%

Present Value of Returns, Compared to High School, by Degree Level and Gender, 1993



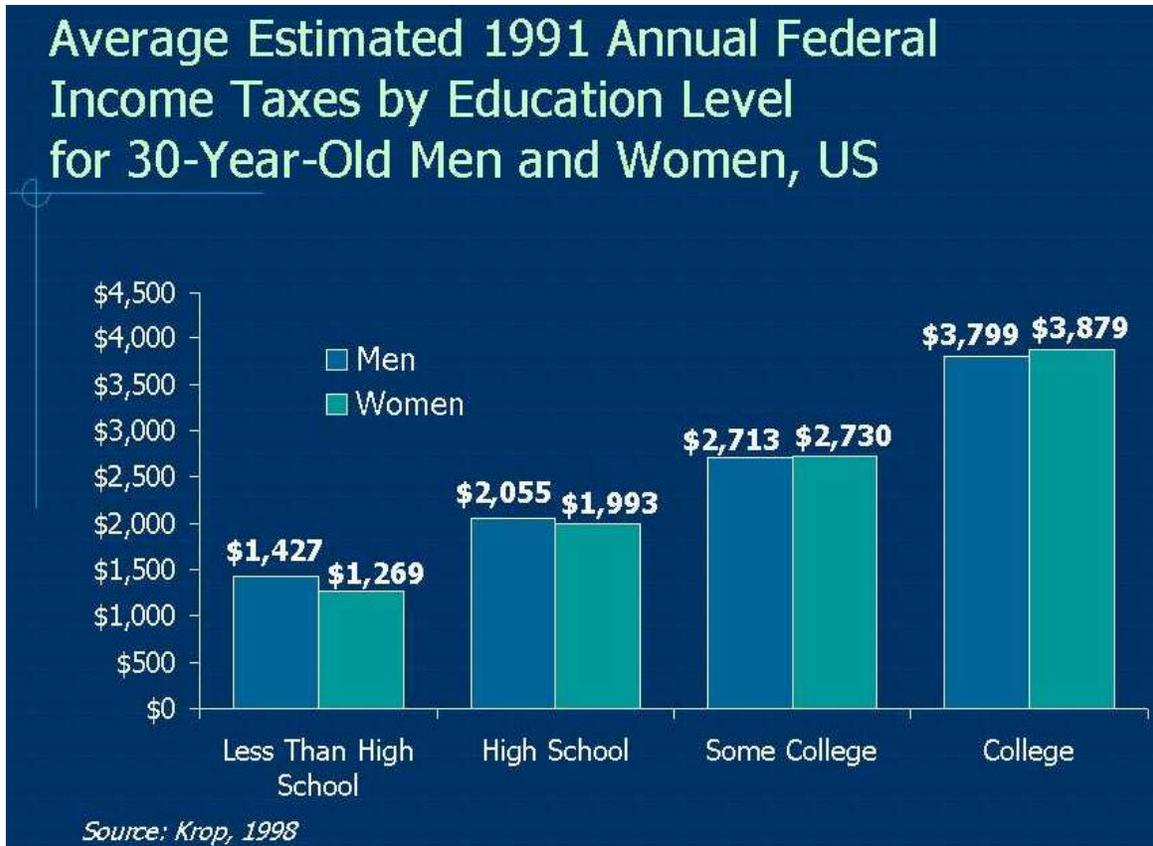
Slide 17

Distribution of Federal Individual Income Taxes Paid, by Educational Attainment of Head of Household, 1970 to 1997, U.S.

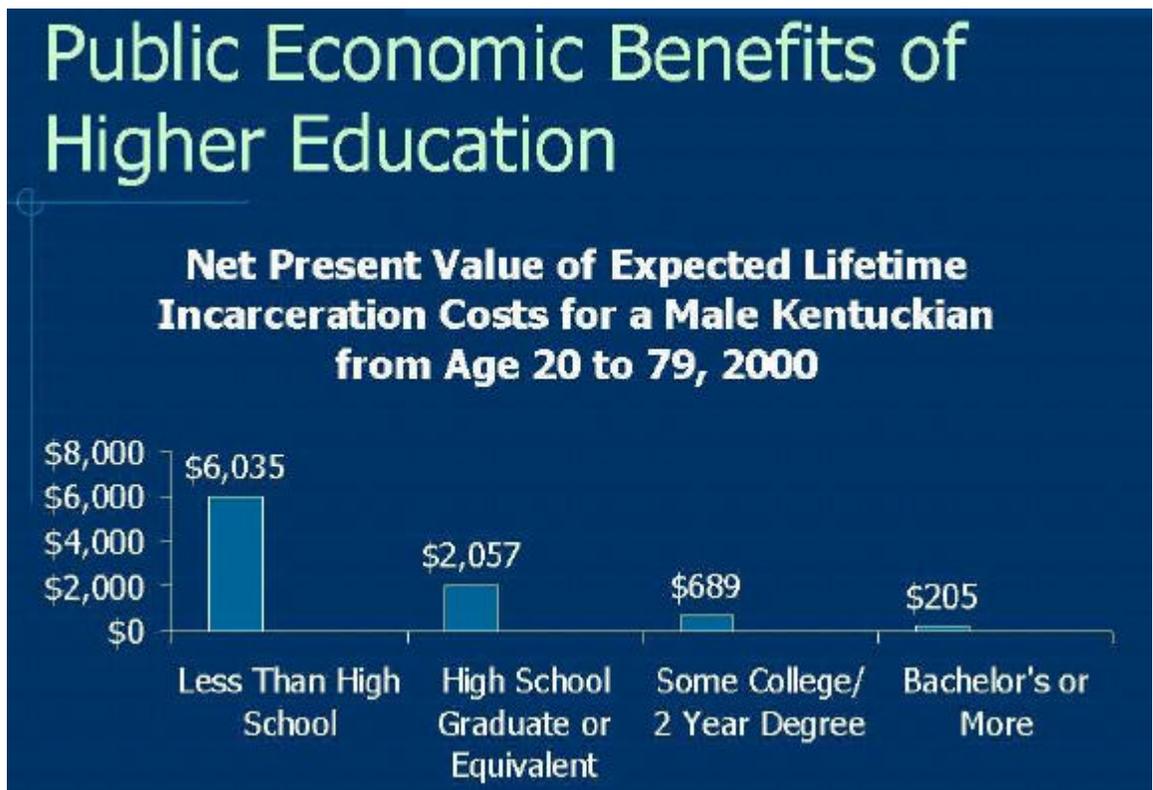


Source: Postsecondary Education Opportunity, 2000

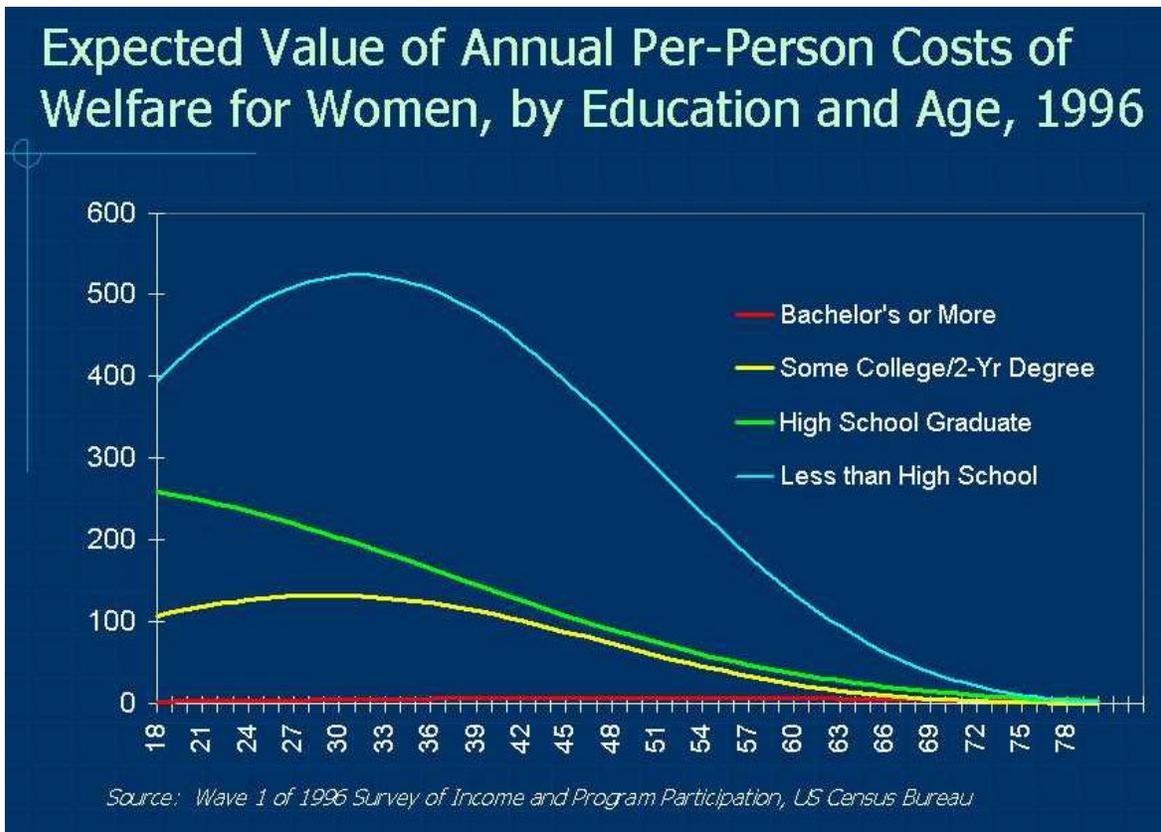
Slide 18



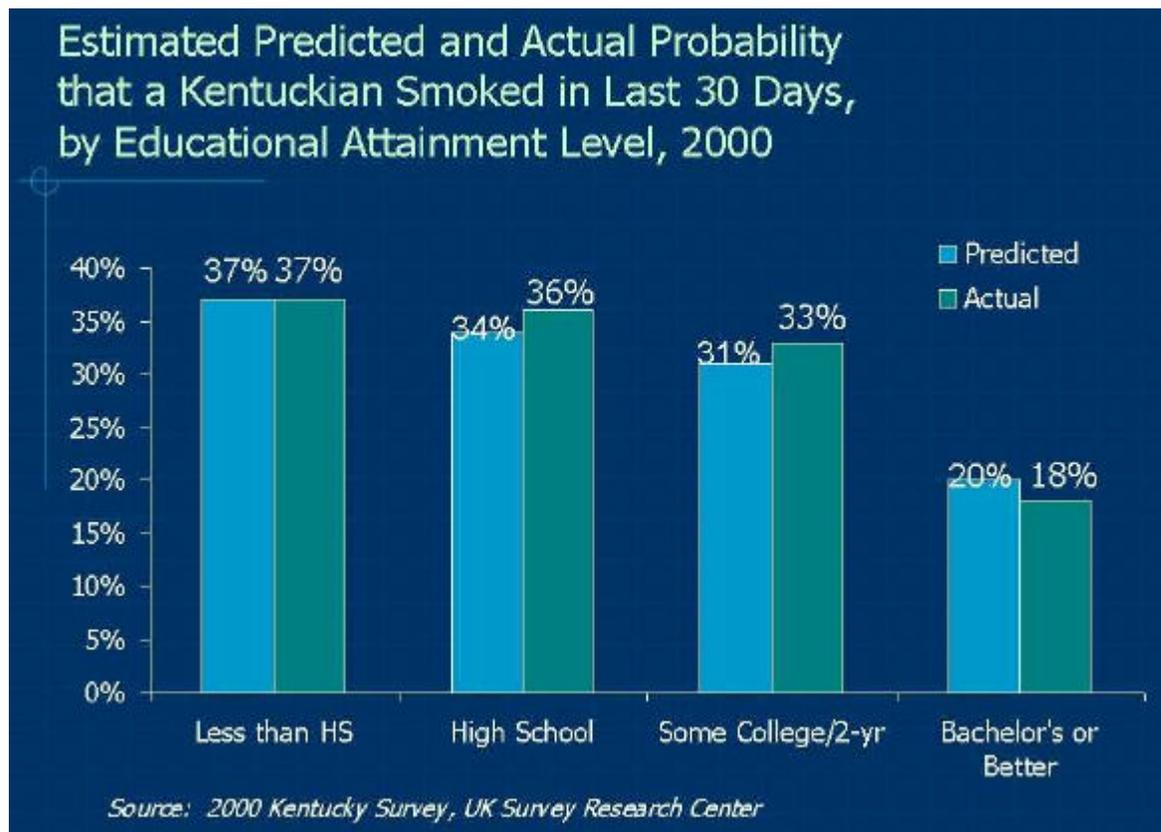
Slide 19



Slide 20



Slide 21



Slide 22

Smoking Costs in Kentucky

- ◆ Annual health care expenditures in Kentucky directly related to tobacco use: **\$ 1.0 billion**
- ◆ Residents' state and federal tax burden caused by tobacco-related health costs: **\$520 million**
- ◆ Kentucky government Medicaid payments directly related to tobacco use: **\$200 million**

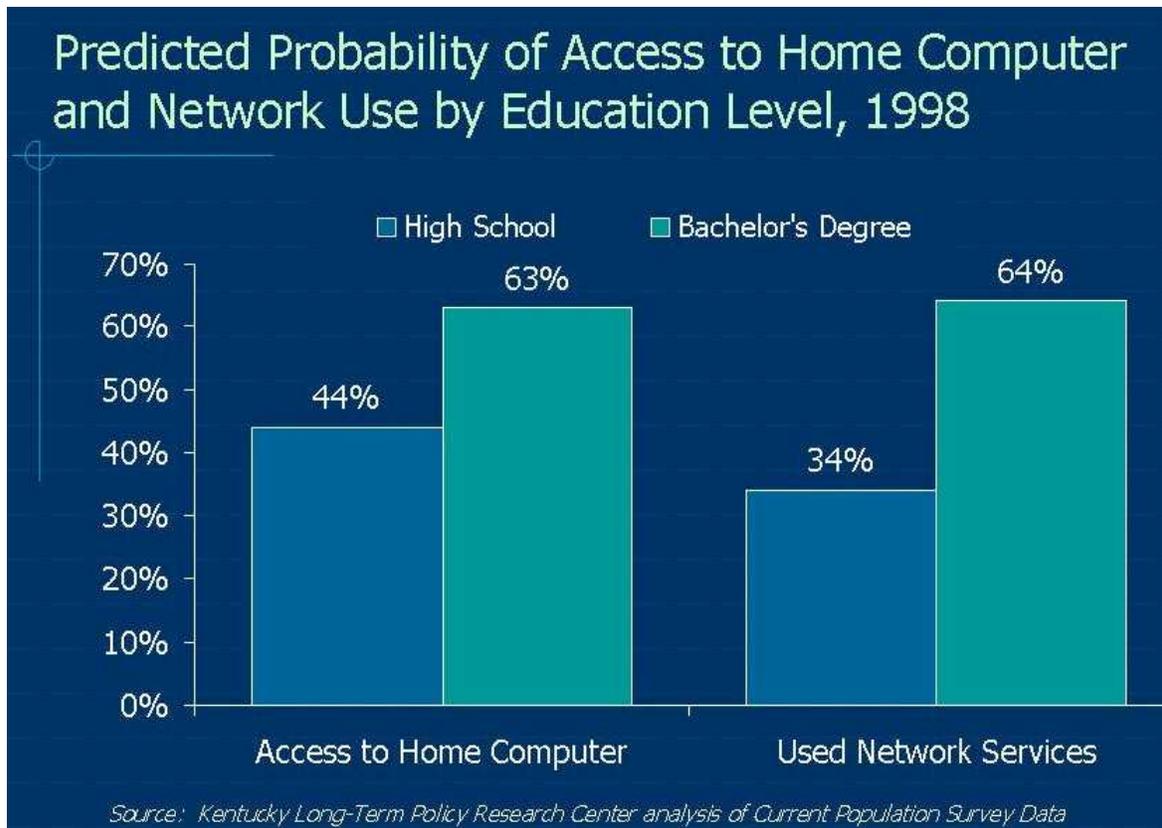
Slide 23

Predicted Hours and Value of Volunteerism by Education Level, 2000

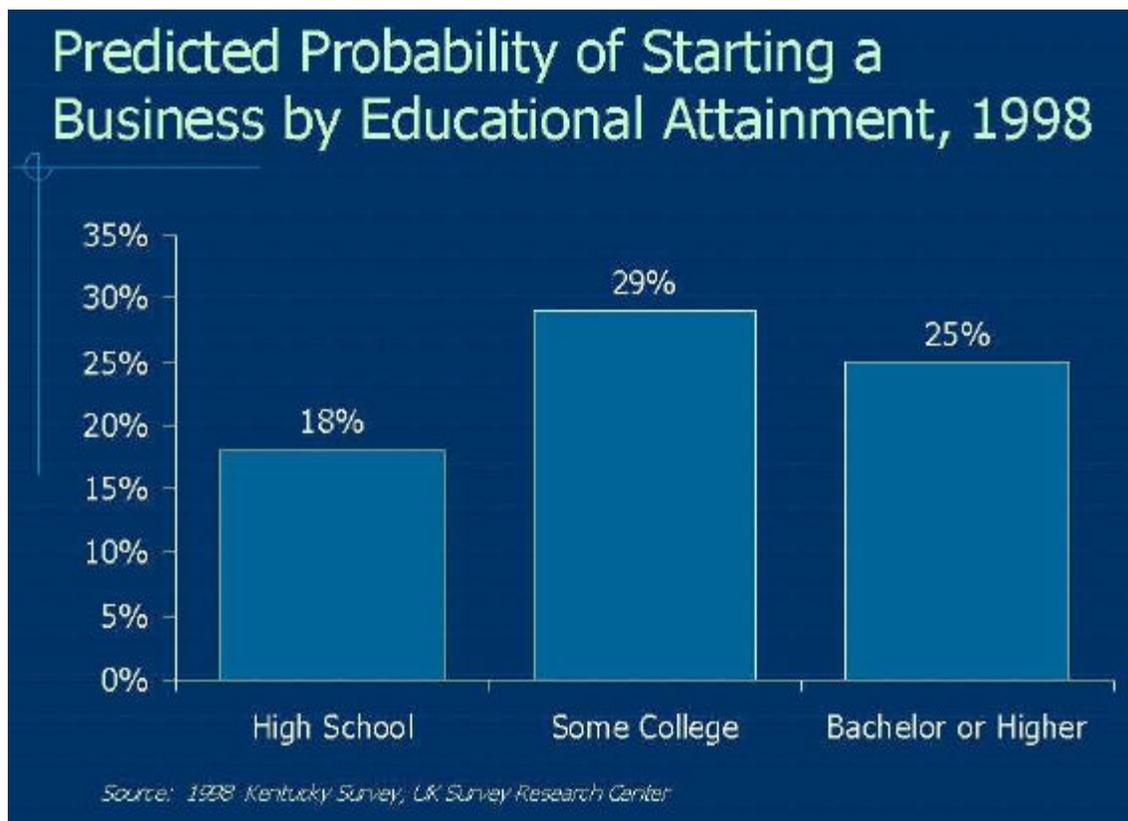


Source: 2000 Kentucky Survey, UK Survey Research Center

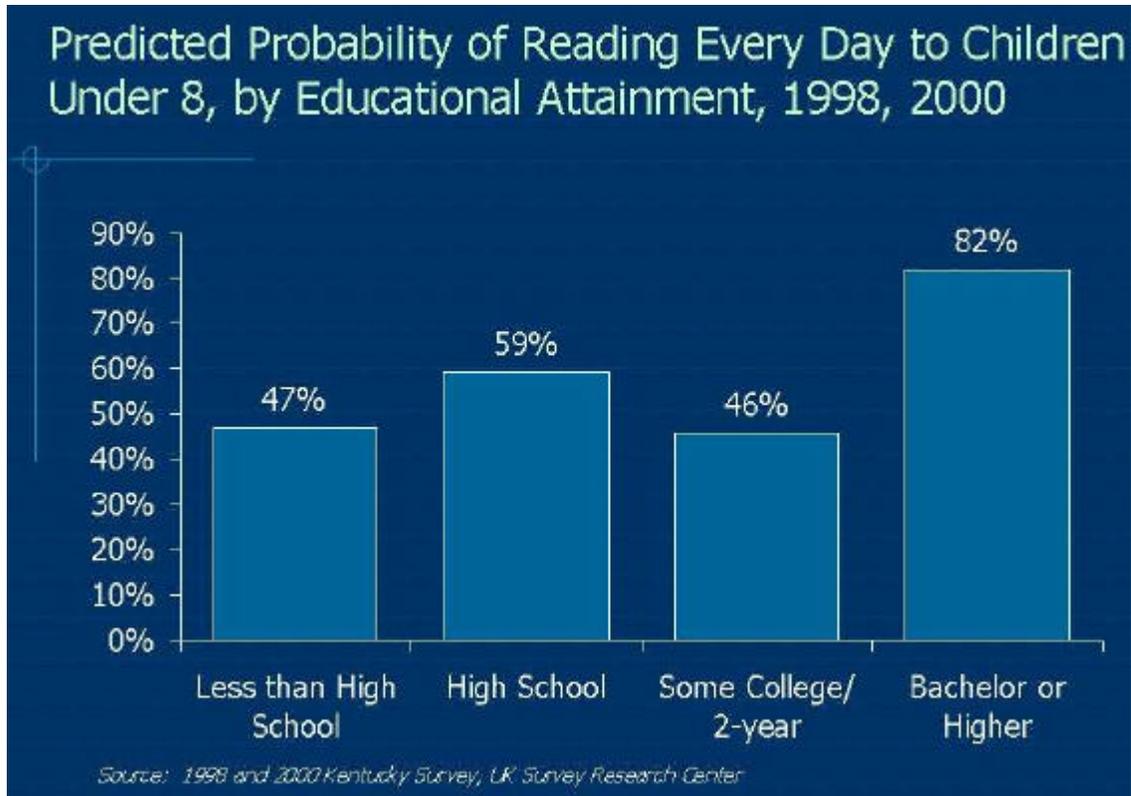
Slide 24



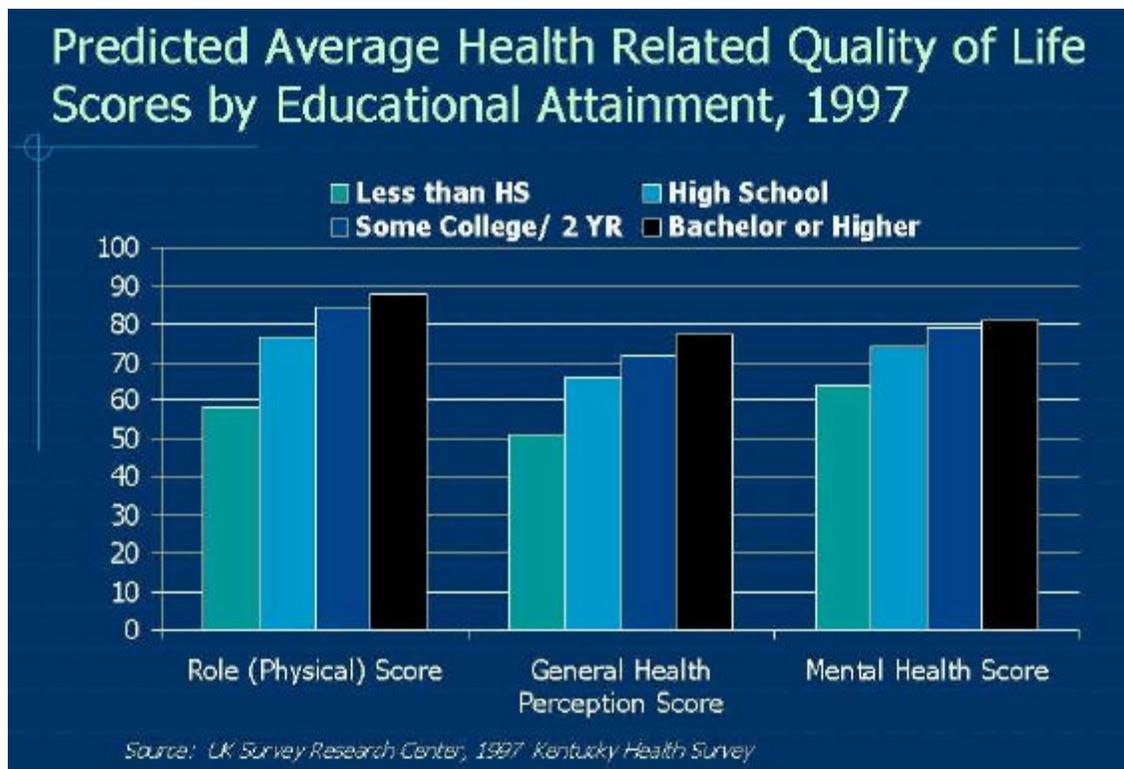
Slide 25



Slide 26



Slide 27



Slide 28

General Fund Support for Postsecondary Education in Kentucky, 1998

Type of Cost Per Full-Time Equivalent Student	4 Yr Only	4 and 2 Yr
Operating and Instructional Support Only	\$4,708	\$4,358
+ Research, Medical, Agriculture and Public Service Support	\$8,209	\$7,103
+ KHEAA and CPE	\$10,047	\$8,695

Slide 29

General Fund Support Per Full-Time Equivalent Student at Kentucky's 4-Year Institutions, 1998

◆ One Year: \$4,708

◆ NPV of Four Years: \$17,090

Note: Does not include medical, agriculture, research, public service, or debt service support, support of CPE and KHEAA or 2 year institutions.

Source: Council on Postsecondary Education

KENTUCKY LONG-TERM POLICY RESEARCH CENTER

Slide 30

Net Present Value of Lifetime Benefits of Increasing Education from High School Graduate to College Graduate, by Type

Type of Benefit/Saving	Male	Female
Earnings	\$338,796	\$149,447
Federal Income Taxes	\$55,888	\$49,600
Welfare (5 years)	\$73	\$534
Volunteerism	\$7,345	\$7,233
Incarceration	\$1,852	\$183

Slide 31

Total Benefits and Returns to Investment in Postsecondary Education

	Male	Female
Total Benefits	\$403,954	\$206,997
Benefits-Costs	\$386,864	\$189,907
Total Benefits Less Earnings	\$63,306	\$57,367
Benefits-Costs-Earnings	\$80,395	\$40,277
Benefits-Costs-Earnings-Taxes	\$9,270	\$7,950
Benefits as % of Total Cost	51%	47%